Current practices of New Zealand speech and language therapists working with multilingual children

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Abstract

This study gathered current practices of New Zealand speech and language therapists (SLTs) working with multilingual children through a nationwide survey. It examined the languages spoken by the SLTs, the children on their caseloads and the SLTs training in this area. The study also aimed to examine the SLTs assessment and intervention practices and service delivery methods with multilingual children. Results found that there was limited overlap between the languages spoken by the SLTs and the children on their caseloads. Three-quarters of the SLTs reported feeling that their training had not adequately prepared them to work with multilingual children. English was the primary language used by the SLTs during assessment and intervention and the reason given for English-only intervention was that the SLT did not speak the child's language. Major gaps in the literature were identified around the lack of develomental norms for multilingual children.

To date there has been no information regarding New Zealand SLTs practices with multilingual children. This study therefore aimed to outline practices found and compare these to current recommendations from the literature. An update to the recommendations was designed in the form of a flowchart, to offer an easy to follow guide for clinicians when diagnosing and planning treatment for multilingual clients.

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1. LITERATURE REVIEW

1.1 Multilingual world

There are 7097 living languages in the world today (Lewis, 2009) and being multilingual is the norm rather than the exception, with more multilingual speakers than monolingual (Bhatia, 2004; The Royal Society of New Zealand, 2013). It has been estimated that two thirds of the world's children grow up multilingual, and out of the world's approximately 750 million English speakers, about 41 percent, or 235 million are multilingual (Crystal, 2003). International migration, or people moving across national borders, has always occurred but has become one of the main challenges and realities of the 21st century. More than 170 million people or about 3% of the world's population live outside their country of birth (Battle, 2012). This trend is likely to continue due to globalization and people realizing the advantages of learning additional languages (Bhatia, 2004). It is clear that worldwide immigration patterns have led to a multicultural and multilingual world.

New Zealand has over the last two decades become one of a small number of culturally and linguistically superdiverse countries (Spoonley, 2012). Over the three most recent censuses the number and proportion of multilingual people has continued to increase and New Zealand is now home to 160 languages, with multiethnic depth forecasted to increase further (Statistics New Zealand, 2014). In 2013, 18.6 percent of the population spoke more than one language, compared to 15.8 percent in 2001. The most commonly spoken languages in New Zealand were reported to be English, Te Reo Māori, Samoan, Hindi,

Northern Chinese and French. For those able to hold a conversation in Te Reo Maori, nearly a quarter, or 24.6 percent, were children (Statistics New Zealand, 2014).

Globalization and population movement has also meant that speech and language therapists (SLTs) in many parts of the world are seeing an increase in multilingual children on their caseloads (Hemsley, 2014; McLeod, 2014a; Stow, 2005; Winter, 1999). The implications for SLTs are therefore likely to be an increase in multilingual children needing their services, making it important for the profession to be prepared and provide services that are evidence-based and cost-effective.

1.2 Definition of Multilingualism

According to Battle (2012) *"Bilingualism and multilingualism refer to the coexistence, contact and interaction of different languages"* For this study the term *multilingualism* will be used as an overarching term for both bilingualism and multilingualism (McLeod, 2014a), as the terms bilingualism and multilingualism are often used interchangeably in the literature (Crystal, 2003). Multilingualism is a complex phenomenon and is defined differently throughout the world (McLeod, 2014a; Jordan & Yelland, 2003). When defining multilingualism many factors need to be considered including the number of languages known, age and timing of acquisition, proficiency in each language, domains of language knowledge and use, language output mode and, finally, languages spoken in the community (Grech & McLeod, 2012).

The following inclusive definition for multilingualism will be used for this study:

> *"People who are multilingual are able to comprehend and/or produce two or more languages with at least a functional level of proficiency, regardless of the age at which the languages were learned"*
> (International Expert Panel on Multilingual Children's Speech, 2012, p. 1 adapted from Grech & McLeod, 2012, p.121).

1.3 Models of multilingual language learning

Early hypotheses to explain multilingual language development proposed that multilingualism in itself was a cause of "mental confusion" and "language handicaps"(Peal, 1962). Subsequent studies however, have found that multilingualism can positively influence both cognitive and linguistic development (Bialystok, 2012; Crivello, 2016; Cummins, 1976). Cummin's common underlying proficiency model (Cummins, 1979) suggests that languages in a multilingual person's brain are not separate but interdependent and served by the same underlying cognitive processes (Jordaan, 2008). The languages are kept separate but non-autonomous only at the surface level, where they are used to speak, read and write, and with adequate exposure to both languages, either language can facilitate the development of the proficiency underlying both languages (Cummins, 1976; Jordaan, 2003). At the surface level, research has also demonstrated that multilingual children build separate but non-autonomous, phonological, lexical, morphosyntactic, and discourse-pragmatic systems as early in development as 18 months of age (Hoff, 2015; Paradis, 2003).

In the case of clinical populations for speech-language therapists, the common underlying proficiency model also implies that it is not possible to have language impairment in only one language, since the underlying impairment will affect the surface manifestation of both languages, thus emphasizing the need for assessment and treatment in both languages (Jordaan, 2008).

Cummins further proposed the interdependence hypothesis, which claims that the learning of a second language is dependent on the level of functioning in the first language. A well-developed first language (L1) therefore facilitates the acquisition of the second language (L2) (Cummins, 1979; Jordaan, 2008; Jordaan, 2003).

1.4 Are there Benefits to Multilingualism?

Language forms the basis for human communication and identity for both mono- and multilingual individuals (Bhatia, 2004). For children, their home language/s are their vehicles for cultural identity and major tools for learning (Kaur, 2010b; Kirmani, 2007). The literature also shows consistent evidence that multilingualism has both social and educational advantages for all children (Bhatia, 2004; Cummins, 1976, 1979, 1981, 2001; May, 2005). This has been recognised by The Australian government which has promoted multilingualism since 1989 in its language policy, *National Agenda for Multicultural Australia: sharing our future* (Office of Multicultural Affairs, 1989), it states that if a child's home language is lost, *"Resources are wasted which might otherwise enrich the individual and wider society…languages are a valuable national resource."* (Dawkins, 1991).

Much research over the last 30 years has also found that multilingualism can positively influence cognitive and linguistic development (Bialystok, 2012; Crivello, 2016; Cummins, 1976, 1981, 2000; May, 2002). In particular research has found that multilingual individuals at all ages demonstrate better executive control—a function that deals with inhibition, switching attention and working memory—than matched monolingual individuals (Barac, 2016; Bialystok, 2012; Crivello, 2016). Recent studies have also found a link between this enhanced cognitive control and the delayed onset of Alzheimer's disease (Barac, 2016; Craik, 2010; Crivello, 2016; Gold, 2015; Guzmán-Vélez, 2015). Multilingualism can therefore be seen to be a valuable asset both on an individual level and for society as a whole.

1.5. International endorsements for multilingualism

As well as having value, multilingualism should also be viewed as a basic human right. There is strong support and commitment for the preservation and respect of cultures and languages across the world (McLeod, 2014a). This is evidenced in the following examples a) The United Nations Convention of the Right of the Child states *"The education of the child shall be directed to… the development of respect for the child's parents, his or her own cultural identity, language and values…"*; (Article 29) United Nations, Treaty Series, vol. 1577, p. 3 and, *"In those States in which ethnic, religious or linguistic minorities…exist, a child belonging to such a minority…shall not be denied the right…to enjoy his or her own culture,…or to use his or her own language"* Article 30 United Nations, Treaty Series, vol. 1577, p. 3 (United Nations, 1989).

b) The American Speech-Language-Hearing Association (ASHA) also endorses multilingualism as can be seen in this example *"Only by providing culturally and linguistically appropriate services can we provide the quality of services our clients/patients deserve"* (ASHA, 2004).

The above examples together outline the importance and rights of multilingual individuals and gives support for the work of speech-language therapists working with multilingual children to enhance their communication skills.

1.6 New Zealand Policy

These rights are also protected in New Zealand law as New Zealand has its own legislation protecting language. Section 20 of the Bill of Rights states *"A person who belongs to a…linguistic minority in New Zealand shall not be denied the right…to use the language, of that minority"* (New Zealand Government, 1990). However, New Zealand, unlike Australia, does not have a language policy, despite the above legal recognition, and in spite of the central role of languages for all areas of development (The Royal Society of New Zealand, 2013).

Breaches of the Bill of Rights are investigated in New Zealand by the Human Rights Commission which also undertakes annual reviews of policy. It has stated that the lack of a New Zealand language policy has led to key issues in this area being overlooked, and initiatives have so far been piecemeal (New Zealand Human Rights Commission, 2008). They have recommended that, *"strategies should address…the goals of language maintenance and development within minority communities",* and that there is a need to "*develop a language policy that*

encourages the learning of a range of languages and supports community efforts to teach their heritage languages" (New Zealand Human Rights Commission, 2008). Within this context, a discussion of how the New Zealand curriculum deals with multilingualism is critical.

1.7 New Zealand Curriculum

1,7.1 Te Whāriki

The New Zealand early childhood curriculum, *Te Whāriki*, is a framework developed to support children's learning and development in early childhood education. Some guidelines are given with regards to multilingualism in the Communication strand of *Te Whāriki*, such as, *"Adults should respect and encourage children's home language. Policies should be in place to support children for whom English is not the home language and to support those who do not have verbal skills."*(Ministry of Education, 1996, p. 86), and that *"Children develop… confidence that their first language is valued"* (Ministry of Education, 1996, p. 90).

There is critique however on whether *Te Whāriki* goes far enough to promote multilingualism, as there is a lack of policy and minimal information on multilingualism in community languages in early childhood (Ball, 2012; McLachlan, 2011). The *Te Whāriki* statements are broadly framed and open to interpretation in diverse early-childhood services, with no specific advice of how to support multilingual children (McLachlan, 2011). In 2011, The Education Review Office provided further support for multilingualism upon the release of its report, *Literacy in Early Childhood services Early Education: Teaching and*

Learning (ERO, 2011). The report stated that children who are fluent in their first language are more likely to be fluent in English (May, 2005). It also found that although some centers promoted literacy (and maintenance of home languages) through songs, dances and storytelling in home languages, the quality across centers was variable. The report stated in its conclusion that the variability in quality may stem from a lack of guidance in implementing practices that align with the Communication strand of *Te Whāriki* (ERO, 2011). *Te Whāriki* was published in 1996, and, with the rapid demographic changes in New Zealand (Statistics New Zealand, 2014), it is critical that it be updated with specific advice on how to support multilingual children. That advice must reflect current knowledge and provide better teaching strategies for multilingual children (Ball, 2012; McLachlan, 2011).

1.7.2 The New Zealand Curriculum

For school-aged children the national curriculum is composed of *The New Zealand Curriculum* and *Te Marautanga o Aotearoa* - a parallel document used in Māori-medium schools. These documents set the direction for student learning and provide guidance for schools as they design and review their curriculum. *The New Zealand Curriculum* has limited guidelines for multilingualism although it states *"Our vision is for young people who will work to create an Aotearoa New Zealand in which… all cultures are valued for the contributions they bring"* (Ministry of Education, 2007, p. 8) and the curriculum's principal of inclusion writes *"The curriculum…ensures that students' identities, languages, abilities, and talents are recognised and affirmed"* (Ministry of Education, 2007, p. 9).

Locke has described *The New Zealand Curriculum* as a document curiously lacking in content (Locke, 2009). May notes that, while it states that students' languages and abilities are affirmed, statistics only show that New Zealand students at age 9 and 14 years perform well in relation to the acquisition of English literacy (when compared to other Organisation for Economic Co-operation and Development (OECD) countries) *if they are already first language speakers of English* (May, 2002). New Zealand has in fact the *poorest* performance across the OECD in the successful acquisition of English language literacy for those students who do not speak it as a first language (Wilkinson, 1998). This is despite research showing that students that are supported at school with both their languages have better educational outcomes with no cost to the majority language (Cummins, 1979).

The New Zealand Curriculum and its lack of guidance around multilingualism has been influenced by debate around the rights of Māori, the indigeneous people of New Zealand, to have unique cultural and linguistic rights, and to be clearly distinctive from other minority groups (Spoonley, 2012). In order to address this further, a brief look at New Zealand history is required. The Māori people after being colonised, signed a foundation document in 1840 with the British Crown (Locke, 2009; May, 2005). This document accorded rights and responsibilities to both parties, and the Crown has in recent times tried to redress past violations, and find positive ways to adress the needs of Māori as a sovereign people, with the right to exercise self-determination (Locke, 2009). This has been argued from a political notion of biculturalism, with the rejection of multiculturalism in which Māori argue they would be one group of many (May, 2005; Smith, 2010).

Multicultural education has been perceived by Māori as a threat to prior commitments to Māori education, and Māori language education in particular (May, 2002, 2005; Smith, 2010).

The focus on biculturalism in New Zealand has in practice led to the unfortunate consequence of a reduced interest from the New Zealand state to substantially address the needs of other minority groups, particularly with respect to institutional/educational help for their languages and cultures (May, 2005). It has even been argued that, *"progress in multicultural education has stagnated"*(Locke, 2009). At the same time, despite significant attempts to reinvigorate Te Reo (the Māori language), there is concern that Te Reo might be reaching crisis point due to restricted use in public contexts and uneven attention in the education system (Waitangi Tribunal 2011).

Against this wider backdrop, SLTs who work as part of an early intervention team in early education or at schools, make important contributions to ensure that all students receive quality, culturally competent services and can provide assistance to teachers in promoting educational growth for their linguistically diverse students (ASHA, 2010). In lieu of a New Zealand national language policy and strong curriculum to help guide practice for SLTs, it is the SLT community itself that needs to fill this gap. Indeed, as McLeod and Williams have stated, *"the most valuable resource…may be proactive and confident SLTs who apply their existing skills, knowledge, and ability to consider the evidence to working with multilingual clients"* (McLeod & Williams, 2012).

1.8 Children's Multilingual Speech & Language Development

1.8.1 Simultaneous and sequential language acquisition

In order for SLTs to be able to provide competent services for multilingual children, it is important to know what occurs in typical multilingual speech and language development. When discussing multilingual children's *language* development, it is therefore important to distinguish between two different kinds of language acquisition, namely 'simultaneous' as compared with 'sequential' acquisition. Simultaneous language acquisition occurs when a child learns two or more languages within the first years of life (Dodd, 1997; Genesee, 2004; Kohnert, 2010). With simultaneous language learning there is no second language in the chronological sense, as both languages are used with the child shortly after birth (De Houwer, 2009; Pearson, 1997). Simultaneous multilinguals will become proficient speakers of all their languages if there is continuous input and meaningful opportunities to develop their linguistic systems (Kohnert, 2010).

With regards to the case of clinical populations for SLTs, the common underlying proficiency model (Cummins, 1979) as discussed earlier, implies that it is not possible for multilingual children to have impairment in one language only. This underlying impairment will affect the surface manifestation of both languages, thus emphasizing the need for SLT assessment and treatment in both languages (Jordaan, 2008).

Sequential acquisition on the other hand occurs when a child has already learnt one language and then adds another, typically when starting early education

settings or school (Grech & McLeod, 2012; Thordardottir, 2010). The defining age of sequential acquisition is debated in the literature but it has been suggested to occur after 3 years of age (Genesee, 2004). Sequential language learners can become conversationally fluent in their second language in 2 to 5 years, but it takes about 5 to 8 years to master more complex academic language (Collier, 1989; Cummins, 1984; Kaur, 2010a). In the case of clinical populations for speech-language therapists, children who begin to learn a second language when they enter school (i.e. sequential multilinguals) are at particular risk of misdiagnosis with language impairment (Bedore & Peña, 2008).

Of interest to sequential language development is the interdependence hypothesis, which claims that the learning of a second language is dependent on the level of functioning in the first language (Cummins, 1979). A well-developed first language (L1) therefore facilitates the acquisition of the second language (L2) (Cummins, 1979; Jordaan, 2008; Yelland, 2003). The clinical implications of this are important, as many SLT as discussed by Jordaan (2008), assume that children with communication disorders will have more difficulties learning or coping with another language and therefore advise against multilingualism . Another common practice is the focus on the school language for various reasons in SLT intervention, while the stronger home language is neglected (Jordaan, 2008). This can lead to the weaker language being acquired, with potential negative effects on cognitive growth, as the multilingual child is not able to further the cognitive advantages known of multilingualism (Bialystok, 2012; Gold, 2015; Jordaan, 2008). Neglecting the home language at school for sequential multilinguals also often has negative educational trajectories, with

many students falling behind in English literacy and in general education (May, 2002, 2004, 2005).

1.8.2 Language attrition

Neglect of the home language can lead to language attrition or language change/loss (Ball, 2012; Kaur, 2010a; McLeod, 2014a). This can occur when multilingual children encounter an English-speaking only environment through early education services or school, and many families struggle to maintain their minority languages. What results for many minority students in New Zealand is 'subtractive bilingualism', where L2 is seen as being in competition with, and eventually replacing L1. (Kaur, 2010a; Locke, 2004; May, 2002, 2004). It has also been argued by May (2002, as cited in Locke & May, 2004) that secondary teachers in New Zealand are increasingly ill-equipped to deal with culturally and linguistically diverse students. One reason for this (as discussed by Locke (2000), as cited in Locke & May, 2004) is that many secondary school teachers are trained in English literature and not linguistics, so may lack knowledge of how to teach English as an academic language register. SLTs as speech and language experts therefore serve an important role when working with multilingual families and other professionals, to provide evidence-based advice regarding maintenance of home languages and evidence for and against multilingualism (ASHA, 2004, 2010; McLeod, 2014a).

1.8.3 Amount of exposure needed

All normal human environments meet the basic environmental requirements necessary for language development, but they do so in different ways and

degrees and therefore language development takes different forms depending on the context the child grows up in (Hoff, 2006). However all accounts of language acquisition no matter the context, describe children learning words from verbal input, and this is also true for multilingual children (Hoff, 2006; Hoff et al., 2012). A certain amount of exposure is therefore necessary for multilingual children to develop proficiency in their languages (De Houwer, 2009; Hoff et al., 2012; Pearson, 1997). It has been suggested that the input required for multilingual language learning needs to be at least 20%, after an observation in a study that children who heard less than this input in one of their languages were reluctant to speak that language (Pearson, 1997). More research is needed however to understand if this small amount of exposure is sustainable, as children are likely to make faster progress in the language/s they use more (Hoff, 2015). More research is also needed to understand the optimal levels of input required for multilingual children to develop proficiency in their languages (De Houwer, 2009).

The size of the difference between monolingual and multilingual children's skills in any language will therefore depend on how much of that language the multilingual child hears (Hoff, 2006, 2015; Hoff et al., 2012). For simultaneous as well as sequential language learners, there will likely also be differences in relative levels of proficiency, due to different opportunities to learn their languages (Kohnert, 2010). The language that the child has greater proficiency in is often referred to as the dominant language and the other as the non-dominant language, and this proficiency can often fluctuate and switch across languages, age and learning opportunities (Goldstein, 2012; Kohnert, 2010; Paradis, 2003).

Most researchers consider this dominance to be a measure of relative proficiency the child has in each language, and does not imply that the child is incompetent in one of his or her languages (Paradis, 2003).

1.8.4 Typical multilingual language development

Multilingual and monolingual language development differ (Thordardottir et al., 2009). Studies of developmental sequences of multilingual acquisition have found that, although acquisition of linguistic structures in each language overall resemble structures seen in monolingual acquisition for that language, it is nevertheless normal for multilingual children to lag behind their monolingual peers in the rate of acquisition (Hoff et al., 2012; Thordardottir et al., 2009). This has been shown to apply to vocabulary measures, syntax, and to comprehension and production (Thordardottir et al., 2009). However, because the range in variation between all children learning language is large, and because many multilingual children hear more of one language than the other, many multilingual children will have single language skills within the normal range of variation, often in their stronger or dominant language (Hoff, 2015; Hoff et al., 2012; Thordardottir et al., 2009). The overall picture is therefore that multilingual children can be delayed in comparison with monolingual children while at the same time also be within normal range of variation for their languages (Hoff, 2015).

1.8.5 Typical multilingual speech development

Multilingual speech development also differs from monolingual speech development, being dependant on the languages the child speaks, levels of

exposure, order of languages spoken and opportunities to use the languages (Goldstein, 2012; Hambly, 2013). Research so far however, has focused more on multilingual children with language disorders (McLeod, 2013) and hence there is a lack of knowledge about typical multilingual speech acquisition (Hambly, 2013; McLeod, 2013).

However what has emerged so far, is evidence of multilingual children having two (or more) separate phonological systems that interact (Hoff, 2015; Paradis, 2001). Support for this theory has been found from observations that multilinguals acquire phonemes shared in both languages, in one language before another (Hambly, 2013) and use resources from all their languages for efficiency of production, while at the same time maintaining separation for specific language elements (Paradis, 2001). Evidence so far also suggests that many typically developing multilingual children produce more atypical speech substitutions and omissions in one or both languages, but these need not necessarily be indicative of a problem, as when looking at monolingual children (Hambly, 2013). Compared with monolingual peers developing speech, multilingual children with and without disorders showed lower intelligibility ratings, made more errors on both consonants and vowels, distorted more sounds, and produced more uncommon error patterns. These specific patterns may also depend on the specific language being acquired (Yavas, 1998). It seems like *"bilingual children have their special language learning strategies and the bilingual environment results in the development of rather unique speech patterns"* (Wei, 2005).

Recent investigations of multilingual children's speech acquisition patterns, has altered previous findings that this group acquired speech slower than their monolingual counterparts (Goldstein, 2012). Instead, current findings show that multilingual children can show evidence of speech sound development that emerges at a faster rate when compared to children monolingual children (positive transfer), and also exhibit speech sound skills that develop at a slower rate when compared to monolingual children (negative transfer) (Goldstein, 2012; Hambly, 2013; Kohnert, 2010). Research indicating positive and negative transfer in multilingual children's speech does not mean that these children have identical skills in their languages, rather it is likely that these skills are distributed (Goldstein, 2012). That is, there are some representations present only in the relatively weaker language and others present only in the relatively dominant language (Kohnert, 2010). For example, one study with a group of Cantonese-English bilingual children found that consonant accuracy in Cantonese was not significantly different from monolinguals, but was so in English compared to monolinguals (Dodd, 1996).

Another important aspect of multilingual children's speech production is the concept of cross-linguistic effects, defined as the influence of one system on the other (Goldstein, 2012; Kohnert, 2010). For phonology this would include consonants, vowels and suprasegmental features like stress, pitch and intonation (Goldstein, 2012). It has often been thought that these cross-linguistic effects would be high in multilingual children learning their languages, but research so far has indicated that the frequency of cross-linguistic effects are often low (Goldstein, 2012). One study involving 3 children found only eight occurrences

between the children (Fabiano, 2005). This further supports the claim that these children have two separate phonological systems as more interference would be expected from a unified source (Paradis, 2001).

1.9. What are Speech and Language disorders?

Many children grow up and become confident communicators regardless of the number of languages spoken (Hambly, 2013). Speech and language delays/disorders are however common developmental disorders that can display as either a secondary difficulty (accounted for by a primary condition such as autism, cleft lip and palate) or a primary difficulty (when no other causes are accountable) (Law, 2003). The prevalence of speech and language disorders in children varies on the whole between 1—15% but depending on inclusion criteria it is thought that approximately 6% of children may have speech and language difficulties, with a significant number having primary speech and language difficulties (Law, 2003).

Speech sound disorders are defined as any combination of difficulties with speech perception, articulation of sounds, and/or the phonological representation and organisation of speech that may impact speech intelligibility or acceptability (International Expert Panel on Multilingual Children's Speech, 2012). A language disorder is an impairment in the comprehension and/or use of a spoken, written and/or other symbol system which may involve the form, (phonology, morphology or syntax), content (semantics), or function (pragmatics), in any combination (ASHA, 1993). The presence of a speech sound disorder in early childhood has been linked to long-term negative impacts for

children both socially and educationally (Bird, 1995; McCormack, 2011; McLeod, 2014b) but is effectively treated with early intervention (Law, 2012; McLeod, 2014b). A language delay may also have an adverse effect upon school achievements and/or be associated with social, emotional or behavioural problems (Law, 2003). Evidence shows that language intervention is effective for expressive vocabulary and syntax but less so for receptive disorders where more studies are required (Law, 2003, 2012). Given the evidence of the potential long-term consequences of speech and language disorders, SLTs have critical roles in supporting children to be competent communicators in the languages of their communities (McLeod, 2014a).

Children who are multilingual can also have speech and language impairments (Bedore & Peña, 2008; Caesar, 2007; McLeod, 2014a) and this impairment will manifest in all of the child's languages, but not always in the same way in the different languages (Jordaan, 2008; Kohnert, 2010; Wei, 2005). Multilingualism is however not a cause of speech and language impairment (Grech & McLeod, 2012; McLeod, 2014a) and there is therefore no reason why multilingualism should lead to a greater or lesser need for speech language therapy (Grech, 2012; Williams, 2012; Winter, 2001). There is also research evidence showing that multilingualism does not interfere with language acquisition even under conditions of impairment (Paradis, 2003).

1.10 Best practice for multilingual children

Current recommendations

Speech language therapists (SLTs) across the world can expect to encounter multilingual children on their caseloads, occasionally or frequently (Caesar, 2007; Fredman, 2006; Hemsley, 2014; Jordaan, 2008; Thordardottir, 2010; Williams, 2012). In recent years a strong focus for the SLT profession has been to use evidence-based practice (EBP) when assessing and planning intervention (Dollaghan, 2007) and SLTs are aware of the requirement of basing their clinical decisions on the strongest research evidence available (Bedore & Peña, 2008; Thordardottir, 2010).

The Multilingual Affairs Committee of the International Association of Logopedics and Phoniatrics, have prepared recommendations for working with multilingual children (Fredman, 2006) which can be seen below in Table 1.1.

Table 1.1 *Recommendations for working with multilingual children*

A) **Case History**	A full case history should be taken for each language outlining: • When was each language first heard at home? • What language is used at school? • Estimate the amount of input from each parent in each language. • Level of language proficiency for each parent • Attitudes to the use of each language in the home and at school • Language use with siblings
B) **Assessment**	• Both languages should be tested • Formal or informal assessment materials may be used • Normative data from standardised tests normed on monolingual speakers can not be applied to multilingual speakers • SLT's knowledgeable in all languages of the multilingual child can create their own informal testing procedures. • Test translations should not be used when not adapted to the language and culture of the child to avoid cultural bias. • Assessment at discourse level can be used as a culturally sensitive assessment tool • For younger children a developmental scale of functional communication should be conducted in both languages • Compare the performance of the child on assessment procedures to that of an age and language matched typically developing multilingual child.
C) **Intervention**	• Multilingual intervention is best practice • If multilingual intervention is not possible parents should receive guidance on how to develop other language at home. • The language of the home should never be changed to adapt to the language of therapy or education • Consultation with parents regarding decision of which language to treat is necessary. • Information should be given that working in the child's dominant language initially may be to the child's benefit. • Therapy on the phonological system of one language will not transfer to the other language. • Articulation therapy will generalise to the other language • Parental involvement is critical
D) **Interpreters**	• Interpreters trained to work with SLT's are recommended • The training needs to include purposes, procedures and goals of tests and therapy methods. • Training needs to teach avoidance of gestures, vocal intonation and cues that could aid child during test administration. • Use of same interpreter with any given minority language group is recommended.

Adapted from Fredman, M. 2006. *Recommendations for working with bilingual children-prepared by the Multilingual Affairs Committee of IALP*.

1.10.1 Practices of SLTs

The practices of speech and language therapists working with multilingual children however, appear different from the recommendations from the literature (Jordaan, 2008; Stow & Dodd, 2003), and for multilingual clients clinical practice is not always based on research findings and recommendations in literature (Jordaan, 2008; McLeod, 2013). An international survey undertaken by the Multilingual Affairs Committee and reported by Jordaan (2008) investigated intervention practices among 99 SLTs across 13 countries. Findings were that 87% of respondents provided intervention in one language only (Jordaan, 2008), despite current research recommending a multilingual service focus for this group of children (Grech & McLeod, 2012; Kohnert, 2010). These results were echoed in a recent South African study, by Van Dulm & Southwood (Southwood & Van Dulm, 2015) which also found that many SLTs were providing intervention in one language only. Williams and McLeod's (2012) study provided Australian data to supplement the international survey by Jordaan (2008). This data pointed to an encouraging trend to include both languages in intervention when working with multilingual children, as approximately half were using English-only as language of assessment (42.9%) and intervention (57.9%) (Williams, 2012). Including all languages in assessment and intervention is considered best practice, to promote L1 skills while also helping them to learn L2 (Fredman, 2006).

One difficulty with SLTs practices with multilingual clients lies in the homogeneity of the predominatly monolingual SLT workforce that has often been reported, especially in English-speaking countries (Caesar, 2007; Jordaan,

2008; Kritikos, 2003), and the findings that many SLTs do not feel they have sufficient training in working with multilingual children (Stow & Dodd, 2003; Williams, 2012; Winter, 1999). One important question for the SLT profession is therefore, how do we "*close the gap between the linguistic homogeneity of the profession and the linguistic diversity of its clientele?"* (Caesar, 2007).

1.11 Challenges for SLT's working with multilingual children

1.11.1 Research so far

Understanding children's speech and language acquisition is required as a foundation for following assessment and intervention practices (McLeod, 2014a). To date, few studies on multilingual children's language development exist and much of the current treatment recommendations are inferred from what is know about monolingual language development, or typically developing multilingual children (Hakansson, 2003; Thordardottir, 2010). Multilingual children are also a very heterogenous group, speaking different languages with different ages at onset, varying amounts of exposure and different settings in which exposure takes place. Multilingual children can therefore not be represented as a single population (Fredman, 2006; Grech & McLeod, 2012; McLeod, 2014a; Thordardottir, 2010). ASHA acknowledges that the study of multilingual issues has only recently begun to gather interest in our field: *"The study of multicultural/multilingual issues (MMI) is a virtual neonate within the field of communication sciences and disorders"* (CSD) (ASHA, 2008).

Much of the data and research that does currently exist has largely focused on the sequential language learner with a first language (L1) who encounters a

second language (L2) usually when starting school. These children often have a clear first (L1) and second (L2) language, and clinical recommendations stated in terms of L1 or L2 can readily be applied to this group of children (Bedore & Peña, 2008; Hakansson, 2003; Hemsley, 2014; Stow, 2005; Thordardottir, 2010). Many of the multilingual children on SLTs caseloads are however simultaneous language learners that might not have a clear L1 or greater proficiency in either language, but research so far for this group has been quite limited. The current clinical recommendations regarding L1 or stronger language can therefore not be applied to this group as easily (Thordardottir, 2010).

The position statements of The Canadian Association of Speech-Language Pathologists and Audiologists (Crago, 1997) and The International Association of Logopedics and Phoniatry (Fredman, 2006) regarding language choice with multilingual children, recommend that multilingual and multicultural assessment and intervention is preferred in order to promote L1 skills while helping them to learn L2 (Crago, 1997; Fredman, 2006). In contrast, the position statement of the American Association of Speech-Language Pathologists and Audiologists (ASHA, 1985) states that for those children that are dominant in English, assessment and intervention can occur in English only (ASHA, 1985). This statement was intended to be a guideline until further research could be conducted (ASHA, 1985) and is now contradicted by current research evidence that recommends a multilingual service focus for multilingual children (Crago, 1997; Fredman, 2006; Jordaan, 2008; Kohnert, 2010). The New Zealand Speech Language Therapy Association (NZSTA) does not yet have a position statement regarding multilingual children, but states briefly in their Scope of Practice that

SLTs may advocate for the use and promotion of a person's first language as required (NZSTA, 2012). More in-depth guidelines from the NZSTA seem necessary to help guide New Zealand SLTs towards achieving best evidence-based practice for this group of children. The current recommendations regarding language choice for assessment and intervention might also need to be refined by future research, to better serve the varying needs of all multilingual children (Thordardottir, 2010).

1.11.2 Areas of Concern

Providing speech and language services to multilingual children is therefore challenging for SLTs across the world (Hemsley, 2014; Jordaan, 2003; McLeod, 2013). The following are some areas of concern that have been identified in research looking at SLTs' practices with multilingual children with speech and language disorders: referral, assessment, intervention, training, and collaboration with interpreters (Bedore & Peña, 2008; Caesar, 2007; Hemsley, 2014; Jordaan, 2008; Kritikos, 2003; McLeod, 2013; Stow & Dodd, 2003; Verdon, 2015; Williams, 2012; Winter, 1999). These will now be discussed separately in the following sections.

1.11.3 Referral

The people responsible for referring multilingual children to SLTs services (e.g., parents, teachers, nurses, doctors) often have limited knowledge or information to help them accurately identify children at risk of speech and language disorders (Stow, 2005). "Where the professional and the child do not share a language it is inevitable that the professional will encounter difficulties in

deciding whether the child has difficulties which merit further investigation"(Stow, 2005).

Speaking more than one language has not been shown to increase risks for speech and language disorders, so multilingual children's representations on SLT's caseloads should not differ proportionally from that of monolingual children (McLeod, 2013; Winter, 2001). The reality however is that multilingual children are often either over- or under- represented in speech language therapists' caseloads (Williams & McLeod, 2012). For Swedish-Arabic speaking children in Sweden, a pattern of under-referral for children under 5 years and over-referral for children over 5 years was documented in a hospital setting (Salameh, 2002). This can have negative implications, as the multilingual children appear to not be referred until it is obvious that the problems are persistent and/or have grown worse (Salameh, 2002). Findings from research in the UK also found that multilingual children referred for language problems vs. referrals for speech sound disorders were almost half of that (25.7%) compared to monolingual children (58.4%), offering concrete evidence that multilingual children with articulation or phonology problems are not being identified (Stow & Dodd, 2010).

11.1.4 Assessment

The main challenges identified by SLTs in the assessment of multilingual children with speech and language disorders can be put in to three broad categories; lack of culturally appropriate assessment tools, lack of developmental norms for this population, and the difficulties in making a differential diagnosis

between a language disorder and language difference (Kohnert, 2010; McLeod, 2013; Thordardottir et al., 2009).

Firstly, there is a lack of standardised assessment material for this population group, making it difficult to provide a basis for decision making around intervention, as found by the Multilingual Affairs Committee study reported by Jordaan (2008). These findings were similar to the South African study by Van Dulm and Southwood (2015), which also reported a lack of linguistically and culturally appropriate assessment materials. Normative data from standardised tests, based on monolingual children cannot be used when assessing multilingual children, as these tests are only valid when the child matches the cultural and linguistic experiences of the standardised group (Gutiérrez-Clellen, 2009).

Multilingual children should also be tested in all their languages according to best practice (see Table 1.1), as skill levels in a single language cannot be used as indicators of ability in the same way as for monolingual children (Cruz-Ferreira, 2010; Hoff et al., 2012; Jordaan, 2008). Research has shown that when multilingual children are tested in one language only, they can be expected to score substantially lower than monolingual children speaking the same language. This has been shown to apply to vocabulary measures, syntax and to comprehension and production (Thordardottir et al., 2009). Multilingual children's language development is distributed over two languages and assessment limited to one language provides only part of the picture (Junker, 2002).

Recommendations on best practice state that SLTs knowledgeable in their clients' languages can create their own informal testing procedures (Fredman, 2006). However many SLT's use informal measures often in their own languages that may not always be reliable in the assessment and diagnosis of multilingual children (Thordardottir et al., 2009). This can result in assessment data that is difficult to interpret, and would likely be rejected by parents and caregivers of monolingual children (for whom carefully developed test tools are available) as the sole or main source of information to determine diagnosis (Thordardottir et al., 2009).

Secondly, a basic premise of clinical identification of speech and language disorders is to do comparisons with typical developmental patterns. If significant differences from normal expectations are found, this then signals an increased likelihood of impairment (Thordardottir et al., 2009). For their diagnostic work SLTs therefore rely heavily on normative data, both qualitative such as typical development of errors, and quantitative such as length of utterances (Paul, 2007; Thordardottir et al., 2009). This then provides SLTs with information on typical speech and language development and typical rates of development, and to date much research has been conducted in this area for monolingual children (Bedore & Peña, 2008; Paul, 2007; Thordardottir et al., 2009).

There is however a lack of research on the typical rate of multilingual development, and how variations in rate are related to children's relative proficiency levels in their languages, or to the amount of exposure received to the languages (Bedore & Peña, 2008; Cruz-Ferreira, 2010; McLeod, 2013;

Thordardottir et al., 2009). The consequences of this for SLTs working with multilingual children is that it *"represents a very significant obstacle to clinical assessment"* (Thordardottir et al., 2009), and until more research is done in this area, assessment procedures for multilingual children will have to continue to employ measures developed for monolingual speakers as part of the process. *"If our purpose is to assess multilingual language development, it follows that we need to find multilingual norms of language development"* (Cruz-Ferreira, 2010).

Finally, the difficulties for SLTs of making a differential diagnosis between an underlying impairment that will affect all the languages spoken by the child (language disorder), or language difficulties resulting from limited knowledge of a language or cultural difference (language difference) have been frequently reported in the literature (Hemsley, 2014; McLeod, 2013; Stow & Dodd, 2003; Williams, 2012). To be able to make a differential diagnosis, assessment needs to occur in both/all languages because a language disorder will be evident across all languages spoken (Kohnert, 2010). Only the first category is the concern of SLTs with regards to intervention, as the children in the second category do not have a language disorder. However *"the distinction between language development, language difference and language disorder presents a challenge to SLTs because of differences in terminology, as well as limitations of resources to assess and diagnose multilingual individuals with communication impairment."*(Grech & McLeod, 2012).

With a lack of standardised assessment material for this population group as discussed earlier, researchers have started to investigate three different

standards of comparison and experimental language tasks, to try and differentiate between language disorders or differences. These are; monolingual comparisons, multilingual comparisons and within-child comparisons (Bedore & Peña, 2008; Kohnert, 2010). Some of the advantages and difficulties with these approaches will now be discussed:

Monolingual comparisons

Language-based processing measures are designed to reduce the role of language specific experiences, and have therefore been proposed as tools for identifying disorders among diverse learners (Laing, 2003). One of the most studied language processing tasks is called nonword repetition, and although this task by its definition has no semantic value, the words used in the task do adhere to phonotactic properties of the test language used (Kohnert, 2010). One study found that typical multilingual speakers performed more poorly on repetition of nonwords in English than typical English-only speakers, but somewhat better than English-only speakers with language disorders. This has the implication that monolingual performance of nonword repetition, can not be used as a criterion for identifying language disorder in multilingual children (Kohnert, 2006). Language-based processing measures may reduce measurement bias but they do not eliminate them (Kohnert, 2010), making it a less useful tool to identify a language disorder in multilingual children. *"Future investigations are needed to develop and refine measures that will be most effective in identifying children who have true difficulties in acquiring or using language as distinct from those children who are in the normal, prolonged process of acquiring a second language"*(Kohnert, 2002).

Multilingual comparisons

Researchers have also started to directly compare language ability in multilingual learners with and without language disorders from the same linguistic or cultural background, and the results have found clear consistent differences between the two groups on measures of syntax, pragmatics and length of utterances (Hemsley, 2014; Kohnert, 2010). These study results have shown peer-child comparative analysis to be of diagnostic importance when assessing multilingual children, but the technique does have limited validation since the criterion reference is a single person, and additional diagnostic evidence is therefore needed to determine a difference from a disorder (Bedore & Peña, 2008; Hemsley, 2014).

Within-child comparisons

In recent years dynamic assessment has been suggested as an alternative means of assessing multilingual children suspected of language difficulties (Caesar, 2007; Hemsley, 2014; Kohnert, 2010). Dynamic assessment approaches incorporate a learning component into the testing situation and examines how the learner responds to the teaching, and the most used approach with multilingual children is the test-teach-retest procedure (Caesar, 2007). The test-teach-retest procedures are designed to test children's learning potential by providing mediated learning experiences (guided support for learning provided by the SLT or test administrator) following initial testing, and then retesting at the end of instruction (Caesar, 2007). The idea being that a typical language learner will benefit immediately from the instruction, whereas the student with difficulties will have trouble learning even after explicit instructions (Hemsley,

2014; Kohnert, 2010). Dynamic assessment procedures can be adapted to almost any language level, such as single words, grammatical morphemes or sequencing of story elements, and these can be tested in all of the child's languages (Kohnert, 2010). Measures of student behaviours obtained during the teaching phase are highly predictive of language impairments in students (Kapantzoglou, 2012; Peña, 2006). Within-child comparisons therefore provide essential assessment information for multilingual children, but more information is needed for diagnostic purposes, as there is of yet no definitive go to method to separate difference from disorder in this group. The importance of not relying on one measure to differentiate difference from disorder can be seen in the following statement: *"SLTs complete valid assessments with linguistically diverse learners by using a combination of methods"* (Kohnert, 2010).

11.1.5 Intervention

Intervention has also been identified to be an area of challenge for SLTs working with multilingual children (Jordaan, 2008). To date however there has not been much research into intervention with multilingual children (to the researcher's knowledge). Recommendations state that multilingual intervention is best practice (see Table 1.1), but this is clearly an area where further research is needed.

1.11.6 Training

Many SLTs have reported that they received insufficient training while studying to prepare them for working with culturally and linguistically diverse populations (Caesar, 2007; Guiberson, 2012; Kritikos, 2003; Stow & Dodd, 2003;

Williams, 2012). This was reflected in a 2001 survey which surveyed nine SLT courses in Australia and New Zealand and found that "*most programs currently provide an inadequate level of theoretical and practical training to equip students to work in multi-cultural settings"*(Cheng, 2001). Training courses need to consider not only teachings on multilingualism but also provide clinical placements where students can develop practical skills with multilingual children (Stow & Dodd, 2003). This is important, as students may be aware of the importance of providing linguistically and culturally sensitive practices to diverse clients, but without supervised experience may lack the specific skills for entry-level competence (Hammond, 2009). Research has also indicated that SLTs that receive theoretical and practical training are more likely to report high levels of confidence in working with multilingual children (Roseberry-McKibbin, 2005).

1.11.7 Collaboration with interpreters

SLT's must deliver services to linguistically diverse clients in the language most appropriate to that client. Therefore, it may be necessary for the clinician to collaborate with an interpreter to ensure clinically appropriate services (ASHA Practice Portal). Interpreters and translators are professionals who are important for effective provision of services to multilingual children by gathering appropriate data and by providing language support (ASHA Practice Portal; McLeod, 2013), while SLTs remain responsible for planning and administering assessment and intervention. See Table 1.1 for best practice guidelines on interpreters.

The use of interpreters in SLT practice can be challenging (Cruz-Ferreira, 2010; Isaac, 2001; Jordaan, 2008). Key points have been discussed by Stow and Dodd (2003: 360-363), who identified some of the following:

Table 1.2 *Key points for SLTs using interpreters*

• Family members should not be asked to act as interpreters. • The use of children raises serious ethical concerns, as they might be privy to personal information that they would normally not have access to. • It may also put the child in the position of being the first person responsible for letting parents know information that might be sensitive/need counselling e.g., diagnosis of autism.
• A parent or caregiver may be able to speak English but this ability might not be at the level required for the specialist vocabulary of the speech language therapy clinic
• Sessions with interpreters have to be translated, so take longer as time is needed to brief and debrief the interpreter. • This can have financial implications for many services.
• There are no agreed standards for people working for interpreting services so their language skills may not be adequate for the specialist vocabulary used in SLT clinics.
• Interpreters can share the child's language but not their culture, which might lead to the interpreter missing important cultural background information. • There may be antagonism between client and interpreter, if they share the same language but come from different countries, which historically have had a distrust of each other e.g., Urdu speakers from Pakistan and Bangladesh.
• Translation styles vary so the SLT might be given a general translation rather than a word for word translation, which is needed for accurate diagnosis.
• Availability can cause difficulties as on-site interpreters are often not available at short notice.
• SLTs and other professionals often do not have any training in how to work with interpreters

Adapted from Stow & Dodd 2003, *Providing an equitable service to bilingual children in the UK: a review.*

These challenges might be contributing factors to why SLT's around the world are reporting low incidences or absence of using professional interpreters in their work with multilingual families (Caesar, 2007; Cruz-Ferreira, 2010; Jordaan, 2008; Williams, 2012). An international survey undertaken by the Multilingual Affairs Committee and reported by Jordaan (2008) investigated intervention practices among 99 SLTs across 13 countries. Findings indicated that only 18% of the respondents used interpreters during assessment or intervention. This finding was echoed in another study by Cruz-Ferreira & Chin (2010), which found that only 9.5% of the Singaporean SLTs in the study used interpreters, despite the SLTs having low self -reported confidence in their client's home languages. Isaac (2001) argues that *"…this practice has its risks. Failure to use an interpreter when there is any doubt of language competence can have a serious impact on the outcomes of a session"*.

1.12 Aim of Study

We know from the literature that a discrepancy exists between Best Practice Recommendations and clinical practices in many countries (Jordaan, 2008; Stow & Dodd, 2003). To date there is no research in New Zealand examining speech and language therapists' practices of working with multilingual children. Therefore we do not know to what extent best practice guidelines for working with multilingual children are being followed in New Zealand. It would therefore be of significant value to determine current practices of New Zealand speech and language therapists to help establish a picture of current practices here. Furthermore, by comparing current practices in New Zealand with Best Practice

guidelines, recommendations for improvements around services, training for undergraduates and professional development for SLTs will be made.

1.13 Research question:

The current study aimed to address the research question: What are the current practises of New Zealand speech and language therapists working with multilingual children? The study also aimed to answer to what extent best practice guidelines for working with multilingual children are being followed in New Zealand.

Chapter 2: Methods

2.1 Participants

Participants recruited for the study were speech-language therapists (SLTs) working with children in New Zealand. In order to gain comprehensive information about multilingual practices in New Zealand, the SLTs recruited worked in many different settings throughout the country. These settings were: the Ministry of Education, special schools (schools that support high needs students, in day schools and residential schools), clinical educators at the University of Canterbury, Auckland University and finally, private practitioners.

Approval to distribute the survey to the Ministry of Education SLTs was sought through the head of the Professional Practice Unit, by sending through the survey with approved ethics application. Once granted, the survey was distributed nationwide. All of the SLTs received an email with an invitation to participate by four regional practice advisors. The Ministry of Education SLTs were sent anonymous survey links as it was not possible to receive individual email addresses. To find out the number of SLTs currently employed at the Ministry of Education and the response rate for the survey, the Enquiries National team was contacted and 263 SLTs were identified.

The private practitioners were identified through the website of the New Zealand Speech-language therapists' association's (NZSTA) list of currently registered private SLTs (NZSTA). All of the 56 SLTs from this list received an email with an invitation to participate and a hyperlink to the survey.

The special school participants were identified using a list of all the special schools in New Zealand, on the Ministry of Education website (Ministry of Education). In the cases where the SLTs email address was listed on the schools website, an email with the survey invitation was sent directly to the SLT. For the other special school SLTs, an email was sent to the school office or principal asking for the email to be forwarded to the SLTs working at the school. A total of fifty-one SLTs were contacted.

Four clinical educators at the University of Canterbury working with children were contacted through the university website (University of Canterbury). For Auckland University, the head of school was contacted by the researcher as there was no website that identified the current clinical educators. The head of department forwarded invitations to participate to the clinical educators and the two interested respondents' email addresses were forwarded to the researcher.

All of the participants were contacted three times in total to increase response rate. A reminder email was sent two weeks after the first email, and 6 months later for the final email.

2.2 Response Rate

In total, 376 survey links were sent to SLTs, (Ministry of Education 263, Private Practitioners 56, Special Schools 51, Clinical Educators 6) of which 146 started and 109 (29%) completed the survey. Out of the 146 respondents that started the survey, 11 gave consent but did not continue, and 6 participants did not give consent (17 in total). These 17 participants were deleted prior to treatment of the data. Participants were not required to provide responses to all questions so the total response rate for questions

varied.

Table 2.1

Participant Response Rate

Completed surveys	***N***	**%**
Ministry of Education	77	29.3
Private Practitioners	15	26.8
Special Schools	13	25.5
Clinical Educators	4	66.6
Total	**109**	**29.0**

2.3 Survey Instrument

The survey instrument was adapted from an Australian survey by Williams & McLeod (2012), and consisted of 2 parts. The first part asked demographic information about the SLTs, caseload characteristics and general service delivery practices when working with multilingual children. This part of the survey therefore asked questions about the languages that the SLTs spoke and multilingual training previously received. It also asked about use of interpreters when assessing speech and language, and percentages of multilingual clients on SLTs' caseloads. The second part of the survey asked in depth questions about the last three multilingual children the SLTs had worked with. This included questions about the children's languages, communication disorders, and what languages had been used during assessment and intervention for both speech and language. The survey also asked the SLTs to indicate reasons and rationale for English only assessment and intervention.

The survey was adapted for New Zealand conditions by changing the title of the profession to speech-language therapists, and the inclusion of cultural advisors for the interpreter section of the survey. Amendments to the flow of the survey were made and the inclusion of a first year practicing choice for new graduates, under the participant demographic section. Sections deemed less relevant for New Zealand SLTs were removed from the adapted survey. These were questions regarding service delivery, and SLT opinions regarding SLTs' fluency in other languages.

The survey was hosted online using the University of Canterbury Qualtrics survey portal (Qualtrics, 2015). Invitations for participating in the study (see Appendix A) contained information on the purpose of the study, with a hyperlink that forwarded the participants to the survey. Upon opening the survey, participants were given a brief description of the survey's purpose, a definition of multilingualism (International Expert Panel on Multilingual Children's Speech, 2012, p. 1 adapted from Grech & McLeod, 2012, p.121), information regarding participant anonymity, planned uses of the data, contact details for questions or comments, and at the bottom of the first screen, participants were asked to indicate whether they gave consent for participation (See Appendix B). If consent was given the participant was taken to the first question of the survey. If consent was not granted, the participant was thanked for their interest and the survey was concluded. The respondents were also informed that participation was entirely voluntary.

2.4 Data and Statistical Analysis

Data from the four different survey groups were combined into one report in Qualtrics and transferred to a Microsoft Office Excel file. Content analysis was used for the open

responses and for unsolicited information in response to certain questions. Quantitative analysis entailed the tallying of responses for each response category and the calculation of a percentage out of the total possible responses. Some percentages had to be calculated out of a different total as not every respondent answered every question.

2.5 Ethics

Ethical approval for this study was sought and obtained from the Human Ethics Committee at the University of Canterbury in May 2015.

Chapter 3: Results

The SLTs in New Zealand were asked to complete a survey regarding their current practices working with multilingual children. This data was collected through a nationwide survey to determine current practices of New Zealand SLTs working with multilingual children and then compare these to Recommendations for working with multilingual children (see Table 1.1).

The results section will start by looking demographics of the participants; including training and languages spoken by the SLTs and children on their caseloads. This will then be followed by general professional practice questions with multilingual children and finally specific professional practice questions, with the last 3 multilingual children on the SLTs caseload.

3.1 Demographics

The majority of respondents (*n*=146) had been practicing as SLTs for more than 10 years (*n*=52, 36%). Of the remainder 32, (22%) had been working for 1-3 years, 25 (17%) between 4-6 years, 15 (10%) between 7 to 10 years and finally 22 (15%) were in their first year of practising. The majority of participants 81% had trained in New Zealand while 19% were trained overseas in countries including the US, UK, Australia, South Africa, Germany, Holland and Ireland.

The respondents worked nationwide, with 50 (34%) working in Auckland, 18 (12%) in Christchurch, 17 (12%) in Wellington (including Upper and Lower Hutt, Porirua and Masterton) and the remainder 61(42%) working in most parts

of the rest of New Zealand (including Whangarei, Hamilton, Dunedin and Invercargill).

The participants (*n*=146) worked in the following settings (some worked in more than one setting): education (*n*=127), community health (*n*=5), hospital (*n*=2), private practice (*n*=27), disability (*n*=19), university (*n*=6), other (*n*=5). The settings that the 5 SLTs indicated for the other option were; an early intervention centre run by a charitable trust, adult day programmes and special schools.

Table 3.1. *Languages other than English spoken by SLTs and children on their caseload, listed according to the most common languages spoken by the New Zealand population.*

Languages[a]	Language speakers in New Zealand *N*= 4,242,051		Languages spoken by last 3 clients *N*=233		Languages spoken by SLTs (*N*=113)[b]	Language proficiency of SLTs		
	N	(%)		(%)		Minimal	Functional	Proficient
Te Reo Māori	148,395	3.498%	48	20.6%	59	48	10	1
Samoan	86,403	2.037%	25	10.7%	1		1	
Hindi	66,309	1.563%	11	4.7%	—	—	—	—
Mandarin & others	52,263	1.232%	17	7.3%	5	3	1	1
French	49,125	1.158%	2	0.9%	43	22	17	4
Cantonese & others	44,625	1.052%	6	2.6%	3	1	2	—
Sinitic *(Chinese ND[c])*	42,753	1.008%	7	3.0%	1		1	—
German	36,642	0.864%	6	2.6%	16	7	5	4
Tongan	31,839	0.751%	13	5.6%	—	—	—	—
Tagalog	29,016	0.684%	4	1.7%	1	—	—	1
Afrikaans	27,387	0.646%	3	1.3%	14	5	7	2
Spanish	26,979	0.636%	10	4.3%	9	7	2	—
Korean	26,373	0.622%	8	3.4%	1	—	—	1
Dutch	24,006	0.566%	2	0.9%	5	1		4
NZ Sign Language	20,235	0.477%	6	2.6%	10	9	1	—
Japanese	20,148	0.475%	9	3.9%	6	6	—	—
Punjabi	19,752	0.466%	6	2.6%	1	—	—	1
Gujarati	17,502	0.413%	2	0.9%	—	—	—	—
Arabic	10,746	0.253%	4	1.7%	—	—	—	—
Russian	9,426	0.222%	3	1.3%	1	—	—	1
Italian	8,214	0.194%	1	0.4%	4	3	1	—
Cook Is. Māori	8,124	0.192%	1	0.4%	—	—	—	—
Thai	7,599	0.179%	6	2.6%	1	—	1	—
Tamil	6,840	0.161%	—	—	—	—	—	—
Malaysian	6,783	0.160%	—	—	2	—	—	2
Khmer	6,729	0.159%	3	1.3%	—	—	—	—
Fijian	6,273	0.148%	—	—	1	1	—	—
Portuguese	5,622	0.133%	2	0.9%	1	1	—	—
Vietnamese	5,376	0.127%	3	1.3%	—	—	—	—
Farsi	5,061	0.119%	2	0.9%	—	—	—	—
Urdu	5,046	0.119%	4	1.7%	—	—	—	—
Niuean	4,548	0.107%	1	0.4%	—	—	—	—
Malayalam	4,365	0.103%	1	0.4%	—	—	—	—
Telugu	3,402	0.080%	2	0.9%	—	—	—	—
Polish	2,616	0.062%	1	0.4%	—	—	—	—
Tokelauan	2,469	0.058%	1	0.4%	—	—	—	—
Bengali	2,418	0.057%	—	—	—	—	—	—
Tuvaluan	2,349	0.055%	1	0.4%	—	—	—	—
Danish	2,127	0.050%	1	0.4%	—	—	—	—
Romanian	1,947	0.046%	1	0.4%	—	—	—	—
Nepalese	1,881	0.044%	—	—	1	1	—	—
Hungarian	1,716	0.040%	1	0.4%	—	—	—	—
Burmese	1,713	0.040%	—	—	—	—	—	—
Fiji Hindi	1,674	0.039%	1	0.4%	—	—	—	—
Kiribati	1,476	0.035%	1	0.4%	—	—	—	—
Somali	1,326	0.031%	1	0.4%	—	—	—	—
Lao	1,281	0.030%	—	—	—	—	—	—
Pashto	1,272	0.030%	—	—	—	—	—	—
Swahili	1,134	0.027%	—	—	—	—	—	—
Turkish	1,107	0.026%	2	0.9%	—	—	—	—
Kannada	1,044	0.025%	1	0.4%	—	—	—	—
Irish	1,023	0.024%	—	—	3	2	1	—
Cebuano	1,014	0.024%	—	—	1	—	—	1
Western Malayo	993	0.023%	1	0.4%	—	—	—	—
Zulu	879	0.021%	—	—	1	—	1	—
Bulgarian	822	0.019%	—	—	1	—	—	1
Finnish	636	0.015%	—	—	—	—	—	—
Indo-Aryan	591	0.014%	1	0.4%	—	—	—	—
Turko-Altaic	174	0.004%	1	0.4%	—	—	—	—

Adapted from Statistics New Zealand, the New Zealand Census of Population and Dwellings and Williams & McLeod(2012).

[a] Dashes indicate there was no information about this language for this participant group.

[b] Numbers sum to more than 113 since 77% of the SLTs spoke more than one language.

[c] Chinese ND: a language of China not further defined.

3.2 SLTs proficiency in languages other than English

The SLTs were asked to rate their proficiency in languages other than English on a three-point scale: minimal, functional and proficient. They spoke a total of 30 languages, 26 of which were included in the most common languages spoken by the New Zealand population (see Table 3.1). A large amount of the SLTs (*n*=113, 77% of 146) indicated that they had at least minimal competence in a language other than English. Half of SLT's (*n*=57, 50% of 113) also reported minimal or functional proficiency in one additional language, and almost half again (n=26, 23%) in a third language. 22 participants reported that they spoke a language other than English proficiently, with one of these participants reporting proficiency in Te Reo. Forty-three SLTs reported minimal, and 10 SLTs reported functional competence in Te Reo. Two of the participants reported that they were proficient in more than one language other than English. Four SLTs reported minimal competence in these additional languages not included in Table 3.1: Gaelic, Auslan, South African sign language, and American sign language.

3.3 Training

When asked if they felt that their university training adequately prepared them for working with children and families from multilingual backgrounds (*n*=144) almost three quarters answered "no". The participants who answered no were asked to elaborate and the majority of the responses indicated that the training in this area had been brief and theory based. One participant responded, *"I feel extremely undertrained in multilingual speech and language difficulties."* (See

Appendix D).

3.4 General professional practice with multilingual children

Following the questions regarding the SLTs multilingualism and training, the next part of the survey focused on general professional practice with multilingual children. Speech and language assessment results will be discussed separatively where necessary.

The respondents (*n*=143) were asked to estimate in percentages how many multilingual children were on their caseloads at the time of survey completion.

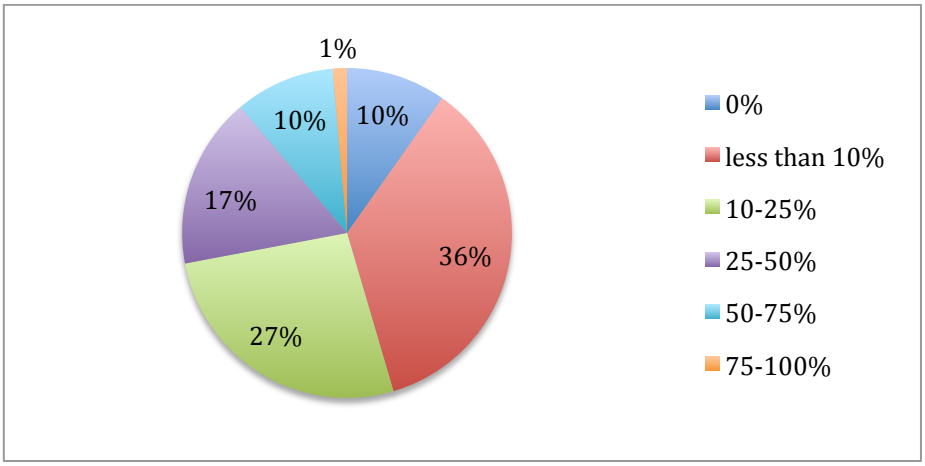


Figure 3.1. Estimated percentages of SLTs current multilingual caseload.

3.5 Assessors of speech & language

3.5.1 Use of assistance for speech and language assessments

Just over half of the respondents (*n*=62, 52%) indicated that they typically conduct the assessment of speech (articulation/phonology) skills of multilingual children without assistance from others. Twenty-three had not assessed the

speech skills of multilingual children.

The SLTs who conducted assessments with the help of others were typically assisted by (more than one could be chosen): SLT colleagues (*n*=24, 41%), English for speakers of other languages (ESOL) teachers (*n*=4, 7%), interpreters provided by their workplace (*n*=20, 34%), children's family members (*n*=47, 81%), cultural advisors (*n*=17, 29%), and others (*n*=9, 16%) (including school teachers, health workers and SLT students).

The majority (*n*=141) of respondents typically conducted the entire assessment of language skills of multilingual children with assistance from others (*n*=82, 65%), while a smaller portion assessed independently (*n*=44, 35%). Fifteen SLTs had not assessed the language skills of children from multilingual children.

Those who did not conduct the language assessment independently were typically assisted by: SLT colleagues (*n*=37, 46%), ESOL teachers (*n*=10, 12%), interpreters provided by their workplace (*n*=33, 41%), children's family members (*n*=66, 81%), cultural advisors (*n*=31, 38%), and others (*n*=20, 25%) For the other category the SLTs had indicated that they were also assisted by school teachers, health workers and SLT students.

3.6. *Professional Practice with individual multilingual children on SLT's caseload*

The second part of the survey asked the respondents to describe actual practices with the last three multilingual children they had worked with. Speech and language results will be discussed separatively where necessary.

One hundred and thirty-three SLTs started this part of the survey and

information about 266 children was provided. Of the multilingual children described 190, (71%) were male and 76, (29%) were female. Twenty-eight SLTs had not assessed/treated a multilingual child.

The last three multilingual children on the SLTs caseloads ranged in age (*n*=260).

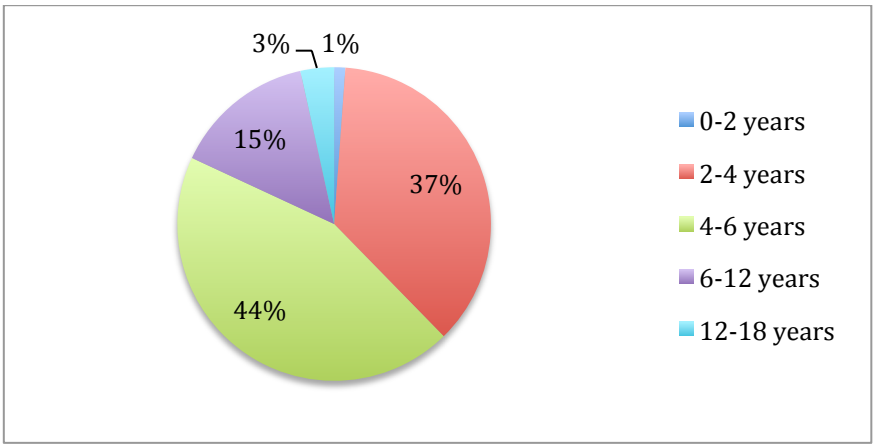


Figure 3.2 *Ages of last three multilingual children assessed/treated by the SLTs.*

The most commonly spoken languages by the children (*n*=233) other than English were: Te Reo 20.5%, Samoan 10.7%, Mandarin 7.3% and Tongan 5.6% (see Table 3.1 for information about all the languages spoken by the SLTs and the children on their caseloads). The respondents reported (*n*=232) that typically both the children's first language and English were used at home (*n*=181, 78%), however sometimes only the first language was used (*n*=39, 17%) and for a small amount of children only English was used at home (*n*=6, 3%). In a few (*n*=6, 3%) cases the SLT did not know what language was used at home.

The reported areas of communication difficulties were: delayed language development, articulation/phonological disorder, autism, intellectual impairment, global delay, attention deficit disorder, stuttering, selective mutism, cleft palate and other (*n*=259) (more than one area could be indicated for each child).

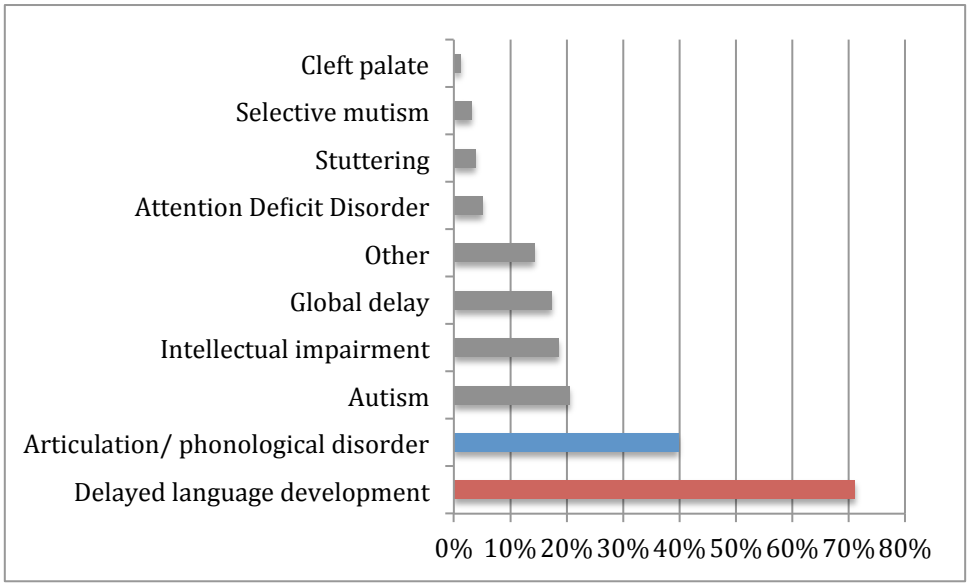


Figure 3.3 *Reported areas of communication difficulties of SLT's last 3 multilingual clients*.

3.7 Assessment of individual speech and language skills

3.7.1 Languages assessed

For the majority of children (*n*=166) speech assessments were conducted in English only (*n*=95, 57%) or in all languages (*n*=65, 39%). For a few children however speech assessment was conducted in their other language only (*n*=6, 4%). The SLTs (*n*=106) indicated that if the speech assessments were not conducted in the children's first language (L1), the reasons were that there were no assessments available (*n*=57, 54%), no L1 resources available (*n*=34, 36%),

no access to an interpreter (*n*=25, 26%), or other reasons (*n*=59, 56%). The most common other reasons stated were that English was the child's dominant language, no parental concern about L1, or that the SLT was school-based with English being the language of instruction.

For language assessments nearly half (*n*=199) were assessed in all languages (*n*=97, 49%) or in their other language only (*n*=9, 5%, while the remainder were conducted in English only (*n*=93, 47%). The SLTs (*n*=113) indicated that if the language assessments were not conducted in the children's first language (L1), the reasons were that there were no assessments available (*n*=65, 58%), no L1 resources available (*n*=44, 39%), no access to an interpreter (*n*=33, 29%), or other reasons (*n*=58, 51%). The most common other reasons stated were that English was the child's dominant language, no parental concern about L1, or parental request for assessment to be in the English language.

3.8 Procedures used for speech and language testing

Speech

The majority (*n*=159) of the multilingual children's speech skills were assessed using informal procedures (*n*=129, 81%), English-only standardised tests (*n*=98, 62%), standardized tests for the child's other language (*n*=10, 6%), developed local norms (*n*=10, 6%), and processing approaches e.g., non-word repetition, (*n*=5, 3%). The most common informal procedures reported were speech sample, discussion with parents regarding L1 sounds, and observation. The most reported formal assessments (*n*=81) were the *New Zealand Articulation Test*

(NZAT), (*n*=51, 63%), and the *Diagnostic Evaluation of Articulation and Phonology* (DEAP), (*n*=13, 16%). (See Appendix E for extensive list).

Language

The multilingual children's language skills (*n*=206) were assessed by the SLTs using a variety of methods as seen in Figure 4.

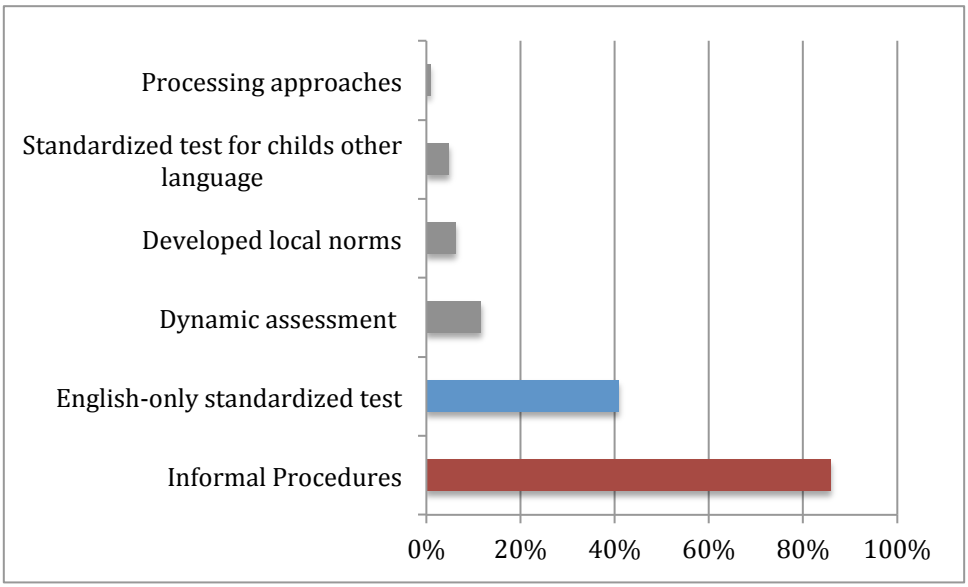


Figure 3.4 *Methods used to assess multilingual children's language.*

The most common informal procedures reported were language samples, parental reports, and play/school observations. The most reported formal assessments (*n*=82) were the *Clinical evaluation of language fundamentals—Preschool* (Wiig, Secord & Semel, 2004), (*n*=22, 27%), and the *Renfrew action picture test* (RAPT) (*n*=19, 23%). (See Appendix F for extensive list).

3.9 Intervention practices with individual children

3.9.1 Language of intervention

Intervention (*n*=195) was conducted in English in approximately half the cases reported (*n*=102, 52%). Using all languages simultaneously in intervention was reported in (*n*=65, 34%) of the cases, and starting in one language and switching to another occurred in (*n*=16, 8%) of the times. A small amount of children also received intervention in their other language only (*n*=12, 6%).

The SLTs were asked to indicate the rationale for choice of language for intervention (*n*=198) by choosing from a list of given possible reasons. The responses from most frequent were; the language used was the preschool/school language (*n*=118, 60%), followed by the language of the SLT (*n*=90, 45%), parental insistence (*n*=81, 41%), language of the community (*n*=77, 39%), other (*n*=55, 28%), and language of difficulty for the child (*n*=40, 20%).

The reasons given for intervention conducted in English only were: (*n*=118) Speech therapist did not speak child's other language (*n*=73, 62%) other (*n*=66, 56%) with the most frequent other reason being parent request and English being the child's dominant language. No resources available for the other language was indicated as the reason for English only intervention by (*n*=34, 29%) and no access to interpreter by (*n*=24, 20%).

3.10 Advice given around language to speak

The majority of the SLTs advised the parents of these children (*n*=225) to speak all/both languages to their children (*n*=129, 57%), other (*n*=69, 31%), other languages only (*n*=23, 10%), and finally English only (*n*=6, 3%). The most

common advice for the other category was to speak the language they are most comfortable with.

3.11 Use of interpreters

3.11.1 Assessment

The SLTs reported low incidences of using professional interpreters (*n*=185) for assessment (*n*=13, 7%). A third of the SLTs reported using no interpreters (*n*=62, 34%) for assessment. The majority of the SLTs who used interpreters reported using parents as interpreters for assessments (*n*=88, 48). (see Figure 5)

3.11.2 Intervention

The SLTs also reported low incidences of using professional interpreters (*n*=185) for for intervention (*n*=6, 3%. A third of the SLTs also reported using no interpreters for intervention (*n*=59, 32%). The majority of the SLTs who used interpreters also reported using parents as interpreters for intervention (*n*=74, 40%). (see Figure 5)

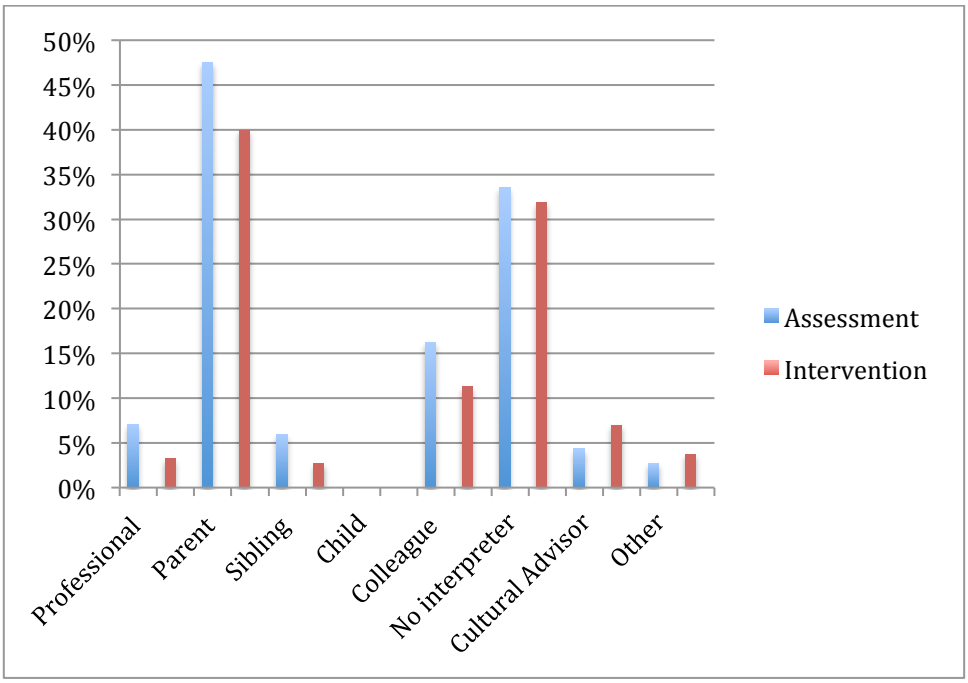


Figure 3.5 Interpreters used for assessment and intervention with multilingual children.

3.12 Summary of research findings

The aim of current study set was twofold: to establish SLTs practices in New Zealand working with multilingual children through a nationwide survey, and to compare these to current Best Practice Recommendations. The survey had a response rate of 29% and included practice information regarding 266 children. The results indicate that the majority of the SLTs are monolingual and do not feel adequately prepared to work with this population from their training. Half of the children on the caseloads were assessed and treated in English only, and the majority of the SLTs used informal assessment methods. The reason for English only intervention was for the majority due to the speech therapist not speaking the child's other language. Dynamic assessment was used by 12% of the SLTs and the majority of SLTs reported using parents as interpreters for both

assessment and intervention. These results will now be discussed and compared to current Best Practice Recommendations.

Chapter 4. Discussion

4.1 Summary of Main Findings

The purpose of this study was to determine current practices of New Zealand SLTs working with multilingual children and compare these to current Best Practice Recommendations from the Multilingual Affairs Committee (see Table 1.1). Best Practice Recommendations for multilingual children state that assessment and intervention should occur in both/all of the child's languages and professional interpreters should be used when necessary (Thordardottir, 2010 Jordaan, 2008). Previous research however has found that SLT practices with multilingual children differ from the recommendations in the literature (Caesar & Kohler, 2007; Jordaan, 2008; Stow & Dodd, 2003), and to date there has been no research in New Zealand examining SLTs practices with this group of children.

The current study therefore investigated current practices of SLTs in New Zealand working with multilingual children through a nationwide survey. The survey had a response rate of 29%, which is comparable to other recent SLT surveys. Kritikos' 2003 survey (Kritikos, 2003) regarding SLTs' beliefs around bilingual assessment yielded a 44% response rate, whereas a 2007 survey regarding SLTs' speech sound assessment procedures had a 33% response rate (Skahan, 2007). Finally, the 2013 survey regarding South African SLT practices with multilingual children had a 15% response rate (Van Dulm, 2013).

Comparing the results from the present study to the recommendations of The Multilingual Affairs Committee of the International Association of Logopedics and Phoniatrics (Fredman, 2006), the key findings concern two areas: the background skills of SLTs and client-based practices. For SLTs, the key issues concerned the languages spoken by practicing SLTs and a perception of having received insufficient multilingual training. For client-based practices, the key issues concerned assessment and intervention practices, reasons for English-only intervention, and the use of interpreters with multilingual children. In addition, this study identified major gaps in the current literature; there is a clear need for updating the Best Practice Recommendations.

4.2 SLT demographics

4.2.1 SLTs' proficiencies in languages other than English

Best Practice Recommendations (from Table 1.1)

- Both/all languages should be tested
- Multilingual intervention is best practice

The SLTs in this study were asked to indicate if they spoke another language than English plus their level of competence in that language. Although the percentage of respondents that indicated that they spoke another language was high (77%), many of these SLTs reported minimal or functional ability, with only a few reporting proficiency.

Having language abilities other than English can be seen as an advantage for New Zealand SLTs working with multilingual children. However, it is debatable

whether minimal or functional abilities are sufficient to adequately serve the diverse population of clients. Indeed, under a definition of multilingualism that only included the 22 SLTs that reported *proficiency* in a language, eighty-five percent of the respondents in this study would in fact be considered monolingual. This finding, that the New Zealand SLT workforce is predominately monolingual, mirrors what has been reported elsewhere, especially in English-speaking countries (Caesar & Kohler, 2007; Jordaan, 2008; Kritikos, 2003; Williams & McLeod, 2012), and, globally, presents a challenge for SLTs working with multilingual children. This challenge is made more difficult by the fact that the languages other than English spoken by the SLTs in the present survey do not mirror the major languages spoken by the children on the SLTs' caseload (see Table 3.1 for details). For instance, even though Te Reo was reported as the main language (other than English) spoken by children on SLT caseloads, only one SLT reported proficiency in this language. Three of the other top five languages spoken in New Zealand—Samoan, Hindi and Tongan—were not spoken proficiently by any SLT in the current study. It is therefore clear that SLTs in New Zealand rarely speak the first languages of the multilingual children that they work with. This has direct clinical implications for these children: 62% of the SLTs in this study (that did not offer bilingual intervention) indicated choosing English-only intervention because the speech therapist did not speak the child's other language.

Similar results overseas have led some researchers to call for active recruitment and training of SLTs who speak languages other than English (Jordaan & Yelland, 2003). A more diverse New Zealand SLT population that better matches the

linguistic diversity of their clients, should therefore be actively encouraged and pursued for the languages most frequently spoken, including Te Reo, Mandarin, Hindi and Samoan. This is critical given the steady increase in multilingual speakers in New Zealand (Statistics New Zealand, 2014).

While multilingual SLTs are desirable, it is unrealistic to expect there to always be a match between languages spoken by SLTs and the varied languages the children on their caseloads speak (Fredman, 2006 Williams & McLeod, 2012). The challenge is therefore to train a workforce that feels confident and able to assess and treat children in languages they themselves do not speak. This needs to be urgently addressed during undergraduate training.

4.2.2 Training

The results of this study showed that the majority of SLTs do not feel that their training has adequately prepared them to work with multilingual children, and that the training they have received on this topic has been brief and restricted to theory. These findings are echoed elsewhere in the world (Stow & Dodd, 2003; Williams & McLeod, 2012; Winter, 1999). In a survey of institutions that train SLTs, Cheng and colleagues (Cheng et al., 2001) concluded that the level of training to equip students in Australia and New Zealand to work in multicultural environments was inadequate. The lack of confidence SLTs reported following their clinical training, coupled with the challenges presented by a largely monolingual workforce working with multilingual children may have substantially contribute to the observation that half of the children in this study received assessment and intervention services in English only (though note that

other reasons reported included a lack of resources). It is therefore essential that training programmes provide clinical placements where students can develop practical skills with multilingual children (Stow & Dodd, 2003) as well as adapting theoretical content to better prepare SLTs for practice with diverse populations. The results from this study contribute to the growing evidence that SLTs in many English-speaking countries feel their training programmes do not prepare them adequately for working with multilingual populations.

4.3 Client-based practices

4.3.1 Assessment

Best Practice Recommendations

- Both languages should be tested

Languages used for assessment with individual multilingual clients

The results of the current study showed that 57% of the SLTs assessed in English-only for *speech* and 47% in English-only for *language*. This is a slightly better result compared to Caesar & Kohler (Caesar & Kohler, 2007), who reported that, in a survey of school-based SLTs in the state of Michigan, 68% of the respondents indicated that they assessed in English only. The numbers returned in the current study are comparable to Williams & McLeod (Williams & McLeod, 2012), who reported that 42.9 % of Australian-based SLTs assessed in English only. The most common reasons given in the current study for not assessing in all the child's languages were that there were no resources for L2 and that English was the child's dominant language. It is encouraging that

approximately half of practicing SLTs surveyed are providing multilingual services. Greater access to resources would likely improve this statistic further.

That said, Best Practice Recommendations and the wider literature both concur that inclusion of all of the child's languages is an essential part of service provision for multilingual children (Thordardottir, 2010) as it is not possible to accurately diagnose a speech or language disorder in a multilingual child if only one language is assessed. The clinical value and ethics of more than half of the children (for speech) and nearly half (for language) in this study being assessed solely in English must therefore be questioned. This practice risks misdiagnosing children with speech/language impairments where there are none, as is frequently the case with sequential language learners entering school {Bedore & Peña, 2008). Moreover, for typically-developing multilingual children who can produce atypical speech substitutions and omissions in one or both languages as part of their development, this need not be a sign of impairment, in stark contrast to the case when treating monolingual children (Hambly et al., 2013). Assessing in one language only can therefore lead to misdiagnosis in both the presence and severity of a speech and language disorder (Hemsley, Holm, & Dodd, 2014; Toohill et al., 2012). With only half the children in the present study receiving assessments in line with current evidence-based practice for multilingual children, the present study identifies a crucial need to improve current practices and ensure that SLTs consider the vital importance of assessing in both languages.

4.3.2 Methods used to assess speech and language

Best Practice Recommendations

- Formal or informal assessment materials may be used
- Normative data from standardised tests normed on monolingual speakers can not be applied to multilingual speakers
- SLT's knowledgeable in all languages of the multilingual child can create their own informal testing procedures.
- Test translations should not be used when not adapted to the language and culture of the child to avoid cultural bias.
- Compare the performance of the child on assessment procedures to that of an age and language matched typically developing multilingual child.
- Use dynamic assessments to differentiate between language difference or disorder (Kohnert, 2010)

For both speech, (81%) and language (86%), respondents indicated that they most frequently used informal assessment procedures in English, with a clear majority of these being language samples and parental reports. Best practice recommendations (Table 1.1) are that informal procedures be used for assessing multilingual children, but that these should ideally be done in all of the child's languages and should not serve as the only assessment tool used to diagnose the problem (Thordardottir, 2010). English standardised assessments were also frequently reported as being used for both speech and language, although many of the SLTs in this study reported not comparing these to normed results. This is encouraging as normative data from standardised tests based on monolingual children cannot be used when assessing multilingual children. Such tests are only valid when the child matches the cultural and linguistic experiences of the standardised group (Gutiérrez-Clellen & Simon-Cereijido, 2009). There are however other problems with using standardised assessments with multilingual children, even when the results are not being used for normed purposes (Bedore

& Peña, 2008). Importantly, these tests have been designed with a reference group that is different from that of multilingual children (i.e., monolingual children). As multilingual speech and language acquisition is different from that of monolingual children, the appropriate reference group for multilingual children is other children learning language in the same, or a similar language context.

Some of the respondents in this study also reported using standardised assessments (or parts thereof) that had been translated into the child's L1 (usually by parents), to achieve multilingual language assessments. The literature states test translations should not be used when not adapted to the language and culture of the child. This is needed to avoid cultural bias, and it is moreover questionable if a parent translating on the fly can achieve this in an assessment session. Furthermore, the use of parents as interpreters is not recommended in the literature (Stow & Dodd, 2003) (discussed below). Caution is therefore paramount when utilising adapted standardised assessments for this population.

Ideally, multilingual children should be assessed using a combination of methods such as peer-child comparative analysis. Dynamic assessment is especially important, as it has been identified as providing essential assessment information for multilingual children (Bedore & Peña, 2008; Kohnert, 2010). Of concern in the present survey, only one respondent indicated using peer-child comparisons for speech, and only 12 % of respondents indicated using dynamic assessments for language. This is concerning: in the Australian study by Williams

& McLeod (2012), half of the respondents indicated using dynamic assessment. These results indicate the need to urgently increase the use of dynamic assessments in New Zealand for multilingual clients.

4.3.3 Intervention

Best Practice Recommendations

- Multilingual intervention is best practice

Intervention was conducted solely in English for just over half of the respondents (52%) which is encouraging when comparing to the international survey of Jordaan (Jordaan, 2008), which indicated that 87% of the respondents provided intervention in one language only, and an earlier survey (Jordaan, 2003), which found that 68% of respondents were providing intervention in English only. The results presented here are also comparable to Williams & McLeod (Williams & McLeod, 2012), who reported that 57.9 % of respondents used English as the sole language of intervention.

While the New Zealand results compares favourably with studies in other countries, it still indicates that half of multilingual children were not given intervention in both/all languages, which is recommended best practice (Fredman, 2006). This is of concern because research has shown that monolingual intervention in the child's weaker language (L2) is less effective than intervention in L1 followed by intervention in L2 (Jordaan, 2008). As discussed in the introductory chapter, there is little research in this area, and this may be a major factor in the decision to treat clients in English alone.

4.3.4 Reasons and rationale for intervention in English only

When asked about the reasons for giving intervention in English only, SLTs most frequently indicated that they did not speak the child's language. Other reasons included parental requests and English being the child's dominant language. When asked about the rationale for language choice in intervention the results were similar, with the most frequent response being that English was the preschool/school language, followed by English being the language of the SLT, and parental insistence that the child be treated in English. These results indicate that half of the SLTs surveyed are providing therapy in their own language, rather than the languages of their clients, in contrast to best practice, which states that multilingual intervention is recommended (Jordaan, 2008).

The decision to employ English-only intervention may be linked to the finding that the majority of surveyed SLTs were monolingual English speakers. It may also be due to training: many reported that they did not feel their training had adequately prepared them to work with multilingual children. As discussed above, it is important that SLTs, when faced with a multilingual child in therapy, consider all the languages needed for the child's daily communication.

4.3.5. Interpreters

Best Practice Recommendations

- Interpreters trained to work with SLTs are recommended

While logistically challenging, best practice indicates that SLTs should collaborate with interpreters to ensure clinically appropriate services when SLT and client languages do not completely overlap. Despite this, SLTs around the world report limited or no use of professional interpreters in their work with multilingual families (Caesar & Kohler, 2007; Cruz-Ferreira & Ng, 2010; Jordaan, 2008; Williams & McLeod, 2012). The results of the New Zealand study echo these previous studies. When asked general questions about practice with multilingual children 41% of the SLTs reported using professional interpreters for language and 34% for speech. However the survey also indicated that, with the last 3 children on their caseloads, only 13.7% used professional interpreters for assessment (speech & language) and this dropped to 6.3% for intervention. The reason for this difference is unclear, and further research is necessary to determine if this difference would remain if the entire multilingual caseloads of the SLTs were surveyed.

The majority of SLTs surveyed reported using parents as interpreters, or else not using interpreters at all during assessment and intervention. This is very clearly divergent from Best Practice recommendations (see Table 1.1). Such practice risks misunderstandings between child, multilingual families and the SLT. Where there are concerns regarding language competence, the use of parents raises ethical considerations. Moreover, parents may not report actual findings due to not being trained in what to look for (Stow & Dodd, 2003). As previously discussed, assessing in one language only (or not properly assessing both languages) can lead to misdiagnosis in both the presence and severity of a speech and language disorder (Hemsley et al., 2014; Toohill et al., 2012). The

present study highlights the need to normalise the practice of employing professional interpreters when working with multilingual children in New Zealand.

4.4 Broader problems with SLTs practice with multilingual children

4.4.1 Value of Best Practice Recommendations

The Best Practice Recommendations of the The Multilingual Affairs Committee of the International Association of Logopedics and Phoniatrics (Fredman, 2006) have been used to compare against the SLT practices reported in this study. These recommendations give information on what to include in the case history and outline best practice for assessment, intervention, use of interpreters, and general language advice (see Table 1.1 for details). The Best Practice Recommendations are based on what is currently known about mono- and multilingual development and, to my knowledge there are no other such recommendations in the literature. They were therefore considered a valuable tool to use for this study and to guide SLTs current work in this area.

Although valuable for what they currently add to clinical practice, the Best Practice Recommendations are inferred primarily from what is known about monolingual language development. Consequently, the recommentations do not consider the heterogeneities inherent in multilingual language development. For instance, the current recommendations seem better suited to sequential language learners, given the advice given around L1 and L2. Simultaneous language learners, a group for whom limited research exists, do not have a clear L1 or L2 and might therefore need different assessment and treatment

(Thordardottir, 2010).

The current Best Practice Recommendations also do not mention dynamic assessment, which has been propsed to be an essential assessment tool for this population (Caesar & Kohler, 2007; Hemsley et al., 2014; Kohnert, 2010). This discrepancy is due to the recommendations having being published in 2006 (Fredman, 2006) and dynamic assessment having emerged as an assessment tool more recently (Kohnert, 2010). The lack of more specific practice recommendations for multilingual children, especially in the area of intervention, appear due to the gaps in the literature identified during this study.

4.4.2 Future research directions

Understanding children's speech and language acquisition is a foundation for assessment and intervention for both monolingual and multilingual children (McLeod, 2014). What has emerged during this study is that there are large gaps in the literature around developmental norms for multilingual children. This in turn presents a significant problem to clinical work (Thordardottir, 2010) and could be part of the reason why SLTs worldwide find it challenging to provide services to multilingual children. The very premise of clinical identification of speech and language disorders is comparisons with typical developmental patterns, and SLTs thus rely heavily on normative data for diagnostic work. It is therefore critical to establish typical rates of multilingual development, the amount of exposure needed, and how variations in rate are related to childrens' proficiency in their languages (Thordardottir, 2010).

Practices for multilingual children should not be viewed as minor variations in existing practices developed for monolingual children. They need to researched and studied in their own right. A longitudinal research study for sequential and simultaneous language learners is therefore urgently needed to establish typical developmental speech and language patterns for these children. This research is vital to enable SLTs, both in New Zealand and worldwide, to provide an equitable, fair, and above all, accurate service when working with multilingual children. The current Best Practice Recommendations should therefore be viewed as a work in progress, and should only be followed and used as guidelines by SLTs until these can be updated and further refined by future research.

4.5. Clinical Implications

Providing speech and language services to multilingual children is challenging for SLTs across the world (Hemsley et al., 2014; Jordaan, 2003; McLeod, Verdon, & Bowen, 2013) and the findings from this study has further reinforced the key findings reported globally. The study identifies a number of clinical implications. The results indicate that Best Practice Recommendations are not always followed, a finding paralleled elsewhere in the world (Jordaan, 2008; Stow & Dodd, 2003). The importance of SLTs following current Best Practice Recommendations has been discussed previously, and not doing so risks potentially misdiagnosing children with speech/language impairments where none exist.

As discussed, the Best Practice Recommendations were published a decade ago,

and some recommendations are demonstrably out of date. With both the client and SLTs in mind, I have created a flowchart that incorporates updates in best practice. It also includes links for SLTs to follow for further information and advice (See Figure). I hope to be able to further update this tool as new research on multilingual children comes to light.

4.6. Limitations

While the results of this survey are comparable to results reported in similar surveys, it is important to note that the response rate was below 30%. A higher response rate to the survey would have given stronger confidence in the validity of the main findings. Furthermore, the survey design allowed participants to choose which questions to answer. This led to a varied response rate throughout the survey. I recommend that future surveys require all questions to be answered, and include a 'not applicable' option. Such refinements may help to generate fuller picture of SLT practices with multilingual children.

Recommendations for SLTs working with multilingual children

CASE HISTORY should be **taken for each language**, outlining:

- When was language first heard at home?
- What language is used at school?
- Language use with siblings
- An estimate of input and language proficiency of each caregiver
- Attitudes to the use of each language at home and school

One language spoken at home?

Sequential language learner

- 2nd language introduced after age 3, with some level of proficiency already having been established in the primary language
- Testing in English only runs risk of misdiagnosis as language impairment: assessment in both languages therefore important
- Common typical phenomenon not to be considered indicative of a speech or language disorder:
- ***Interference:*** an error made in English due to direct influence of 1st language

Two or more languages spoken at home?

Simultaneous language learner

- Acquisition of two/more languages at same time, before age 3
- Can display strong English language skills but should still be assessed in other language(s) as will have different language development to monolingual child
- Common typical phenomena not to be considered indicative of a speech or language disorder:
- ***Transfer:*** an error or less usual structure that appears in one language due to influence from other language
- ***Code-switching:*** changing languages within phrases or sentences

SLTs fluent in all languages can proceed to assessment

Help with interpreters

bit.do/slts1

Interpreters

- Use of interpreters trained to work with SLTs is recommended
- Training needs to include purposes, procedures and goals of tests and therapy methods
- Family members not recommended as interpreters

Assessment

1. All languages must be tested to enable diagnosis of speech/language disorder and for differentiating between language disorder/language difference
   - Important to consider sound systems of all the languages used by a client
   - Procedures used to assess multilingual children should combine a variety of tools and not rely on one measure
2. Formal or informal assessment materials may be used
   - **Normative data** from standardised tests normed on monolingual speakers **cannot be applied** to multilingual speakers
   - For young children a developmental scale of functional communication should be conducted in all languages
   - Narratives, language samples and observations for all languages can be used as culturally-sensitive assessment tools
3. Important assessment tools to consider are:
   - **Dynamic Assessment:** *Test-teach-test*
   - **Peer Child comparison:** Compare the performance of the child with an age and language matched typically developed multilingual child

Help with speech assessment

bit.do/slts2

Help with dynamic assessment

bit.do/slts3

If speech/language disorder found

Intervention

- **Multilingual intervention** is best practice
- **Do not change the home language** to adapt to the language of therapy or education
- **Therapy on the phonological system** of one language **will not transfer** to the other language
- **Articulation therapy can generalise** to the other language

General overview

bit.do/slts4

Advice

- If multilingual intervention not possible/needed, **parents should receive guidance on developing other language(s)** at home
- Information should be given that **working in the child's dominant language initially may be to the child's benefit**

If language difference or no disorder found

References

ASHA (2008). Multicultural/multilingual issues courses: a resource for instructors. Online at http://www.asha.org/practice/multicultural/faculty/metaanalysis/. Retrieved 13.07 2016

ASHA. Practice Portal Professional Issues Collaborating With Interpreters Online at http://www.asha.org/Practice-Portal/Professional-Issues/Collaborating-With-Interpreters/. Retrieved 13/7/ 2016

ASHA (1985). Clinical management of communicatively handicapped minority language populations [Position Statement]. *Available from* http://www.asha.org/policy.

ASHA (2004). American Speech-Language-Hearing Association. Knowledge and skills needed by speech-language pathologists and audiologists to provide culturally and linguistically appropriate services. Retrieved from http://www.asha.org/policy/KS2004-00215/. Retrieved 14/7/2016

ASHA (2010). Roles and Responsibilities of Speech-Language Pathologists in Schools. Retrieved from http://www.asha.org/policy/PI2010-00317/.

ASHA (1993). Definitions of communication disorders and variations [Relevant Paper]. Available from http://www.asha.org/policy.

Ball, C. (2012). *The richness diversity brings: diverse languages and literacies in early childhood education.* Master of Education, Auckland University of Technology, Auckland.

Barac, R., Moreno, S., & Bialystok, E. (2016). Behavioral and Electrophysiological Differences in Executive Control Between Monolingual and Bilingual Children. *Child development 87*(4), 1277-90.

Battle, D. (2012). *Communication disorders in multicultural and international populations.* St. Louis, Mo: Elsevier/Mosby.

Bedore, L. M., & Peña, E. D. (2008). Assessment of Bilingual Children for Identification of Language Impairment: Current Findings and Implications for Practice. *International Journal of Bilingual Education and Bilingualism, 11*(1), 1-29. doi: 10.2167/beb392.0

Bhatia, T. R., W. (2004). *The handbook of bilingualism*. Malden MA: Blackwell Pub.

Bialystok, E., Craik, F. I., & Luk, G. . (2012). Bilingualism: consequences for mind and brain. . *Trends in cognitive sciences, 16*(4), 240-250.

Bird, J., Bishop, D. V., & Freeman, N. H. . (1995). Phonological awareness and literacy development in children with expressive phonological impairments. . *Journal of Speech, Language, and Hearing Research, 38*(2), 446-462.

Caesar, L. G., & Kohler, P. D. . (2007). The state of school-based bilingual assessment: Actual practice versus recommended guidelines. . *Language, Speech, and Hearing Services in Schools, 38*(3), 190-200.

Cheng, L., Battle, D., Murdoch, B., & Martin, D. . (2001). Educating speech-language pathologists for a multicultural world. *Folia Phoniatrica et Logopaedica, 53*(3), 121-127.

Collier, V. P. (1989). How long? A synthesis of research on academic achievement in a second language. *TESOL quarterly, 23*(3), 509-531.

Commission, N. Z. H. R. (2008). *Languages in Aotearoa New Zealand Te Waka a Reo Statement on Language Policy*. Wellington: Retrieved from https://www.hrc.co.nz/files/8314/2388/3768/21

Crago, M. B. W., F. . (1997). CASLPA Position Paper on Speech-Language Pathology and Audiology in the multicultural multilingual context. . *Journal of Speech-Language Pathology and Audiology. , 21*(3), 35-44.

Craik, F. L., Bialystok, E. & Freedman, M. (2010). Delaying the onset of Alzheimer disease: bilingualism as a form of cognitive reserve. *Neurology, 75*(1726).

Crivello, C., Kuzyk, O., Rodrigues, M., Friend, M., Zesiger, P., & Poulin-Dubois, D. (2016). The effects of bilingual growth on toddlers' executive function. *Journal of Experimental Child Psychology*(141), 121-132.

Cruz-Ferreira, M., & Ng, B. C. (2010). Assessing multilingual children in multilingual clinics. Insights from Singapore. In M. Cruz-Ferreira (Ed.), *Multilingual norms* (pp. 343-396). Frankfurt am Main: Peter Lang.

Crystal, D. (2003). *English as a global language*. Cambridge, UK: Cambridge University Press.

Cummins, J. (1976). The Influence of Bilingualism on Cognitive Growth: A Synthesis of Research Findings and Explanatory Hypotheses. . *Working Papers on Bilingualism, No. 9.*, 1-43.

Cummins, J. (1979). Linguistic interdependence and the educational development of bilingual children. *Review of educational research, 49*(2), 222-251.

Cummins, J. (1981). EMPIRICAL AND THEORETICAL UNDERPINNINGS OF BILINGUAL EDUCATION. *The Journal of Education, 163*(1), 16-29.

Cummins, J. (1984). *Bilingualism and special education: Issues in assessment and pedagogy* (Vol. 6). Clevedon.

Cummins, J. (2000). Language, power, and pedagogy: Bilingual children in the crossfire *Multilingual Matters., (Vol. 23).*

Cummins, J. (2001). Bilingual Children's Mother Tongue: Why is it Important for Education? . *University of Toronto.*

Dawkins, J. (1991). *Australia's language: The Australian language and literacy policy.* Canberra, Australia: Australian Government Publishing Service.

De Houwer, A. (2009). Early bilingual acquisition. *Handbook of bilingualism*, 30.

Dodd, B., Holm, A., & Wei, L. . (1997). Speech disorder in preschool children exposed to Cantonese and English. *Clinical linguistics & phonetics, 11*(3), 229-243.

Dodd, B., So, L. and Li, W. (1996). Symptoms of disorder without impairment: The written and spoken errors of bilinguals. In R. C. a. L. W. B. Dodd (Ed.), *Evaluating Theories of Language* (pp. 119-136). London: Whurr.

ERO. (2011). *Literacy in early childhood services teaching and learning*. Wellington, New Zealand.

Fabiano, L. a. G., B. (2005). Phonological cross-linguistic influence in sequential Spanish-English bilingual children. *Journal of Multilingual Communication Disorders, 3*(56), 63.

Fredman, M. (2006). Recommendations for working with bilingual children-prepared by the Multilingual Affairs Committee of IALP. *Folia Phoniatrica et Logopaedica, 58*, 458-464.

Genesee, F., Paradis, J., & Crago, M. B. . (2004). *Dual language development & disorders: A handbook on bilingualism & second language learning* (Vol. 11): Paul H Brookes Publishing.

Gold, B. T. (2015). Lifelong bilingualism and neural reserve against Alzheimer's disease: A review of findings and potential mechanisms. *Behavioural brain research, 281*, 9-15.

Goldstein, B. A., & McLeod (2012). *10 Typical and Atypical Multilingual Speech Acquisition* (Vol. 6).

Grech, H., & McLeod, S. (2012). Multilingual speech and language development and disorders. In D. Battle (Ed.), *Communication disorders in multicultural and international populations* (Vol. 4, pp. 120-147).

Grech, H., McLeod, S., & Battle, D. (2012). Multilingual speech and language development and disorders. . *Communication disorders in multicultural and international populations, 4*, 120-147.

Guiberson, M., & Atkins, J. . (2012). Speech-language pathologists' preparation, practices, and perspectives on serving culturally and linguistically diverse children. *Communication Disorders Quarterly, 33*(3), 169-180.

Gutiérrez-Clellen, V. F., & Simon-Cereijido, G. . (2009). Using language sampling in clinical assessments with bilingual children: Challenges and future directions. *Seminars in Speech and Language, 30*(04), 234-245.

Guzmán-Vélez, E., & Tranel, D. . (2015). Does bilingualism contribute to cognitive reserve? Cognitive and neural perspectives. . *Neuropsychology, 29*(1), 139.

Hakansson, G., Salameh, E. K., & Nettelbladt, U. (2003). Measuring language development in bilingual children: Swedish-Arabic children with and without language impairment. . *Linguistics,, 42*(2), 255-288.

Hambly, H., Wren, Y., McLeod, S., & Roulstone, S. (2013). The influence of bilingualism on speech production: A systematic review. *International Journal of Language & Communication Disorders, 48*(1), 1-24.

Hammond, C., Mitchell, P., & Johnson, M. (2009). Academic and clinical preparation for cultural and linguistic diversity in speech-language pathology: program director perspectives. . *Contemporary Issues in Communication Science and Disorders, 36*, 63-76.

Hemsley, G., Holm, A., Dodd, B. (2014). Identifying language difference versus disorder in bilingual children. *Speech, Language and Hearing, 17*(2), 101-115. doi: 10.1179/2050572813y.0000000027

Hoff, E. (2006). How social contexts support and shape language development. *Developmental Review, 26*(1), 55-88.

Hoff, E., & Core, C. (2015). What clinicians need to know about bilingual development. *Seminars in speech and language 36*(02), 089-099.

Hoff, E., Core, C., Place, S., Rumiche, R., Senor, M., & Parra, M. (2012). Dual language exposure and early bilingual development. *J Child Lang, 39*(1), 1-27. doi: 10.1017/S0305000910000759

International Expert Panel on Multilingual Children's Speech (2012). Multilingual children with speech sound disorders: Position paper. *Bathurst, NSW, Australia: Research Institute for Professional Practice, Learning and Education (RIPPLE), Charles Sturt University. Retrieved from* http://www.csu.edu.au/research/multilingual-speech/position-paper.

Isaac, K. M. (2001). What about linguistic diversity? A different look at multicultural health care. *Communication Disorders Quarterly, 22*(2), 110-113.

Jordaan, H. (2008). Clinical intervention for bilingual children: an international survey. *Folia Phoniatr Logop, 60*(2), 97-105. doi: 10.1159/000114652

Jordaan, H., & Yelland, A. (2003). Intervention with multilingual language impaired children by South African speech-language therapists. *Journal of Multilingual Communication Disorders, 1*(1), 13-33.

Junker, D. A., & Stockman, I. J. (2002). Expressive Vocabulary of German-English Bilingual Toddlers. *American Journal of Speech-Language Pathology, 11*(4), 381.

Kapantzoglou, M., Restrepo, M. A., & Thompson, M. S. (2012). Dynamic assessment of word learning skills: Identifying language impairment in bilingual children. *Language, Speech, and Hearing Services in Schools, 43*(1), 81-96.

Kaur, N. (2010a). Apni boli, apna virsa: Our language, our culture. *He Kupu: The Word, 2*(3), 47-56.

Kaur, N. (2010b). Apni boli, apna virsa: Our language, our culture. *He Kupu: The Word, 2*(3), 47-57.

Kirmani, M. H. (2007). Empowering culturally and linguistically diverse children and families. *YC Young Children, 62*(6), 94.

Kohnert, K. (2002). Picture Naming in Early Sequential Bilinguals A 1-Year Follow-Up. *Journal of Speech, Language, and Hearing Research, 45*(4), 759-771.

Kohnert, K. (2010). Bilingual children with primary language impairment: Issues, evidence and implications for clinical actions. *Journal of Communication Disorders, 43*(6), 456-473.

Kohnert, K., Windsor, J., & Yim, D. . (2006). Do language‐based processing tasks separate children with language impairment from typical bilinguals? *Learning Disabilities Research & Practice, 21*(1), 19-29.

Kritikos, E. P. (2003). Speech-Language Pathologists' Beliefs About Language Assessment of Bilingual/Bicultural Individuals. *American journal of speech-language pathology, 12*(1), 73.

Laing, S. P., & Kamhi, A. (2003). Alternative assessment of language and literacy in culturally and linguistically diverse populations. *Language, Speech, and Hearing services in schools, 34*(1), 44-55.

Law, J., Garrett, Z., & Nye, C. (2003). Speech and language therapy interventions for children with primary speech and language delay or disorder., from Campbell Collaboration

Law, J., Lee, W., Roulstone, S., Wren, Y., Zeng, B., & Lindsay, G. (2012). *'What Works': interventions for children and young people with speech, language and communication needs*.

Lewis, M. (2009). Ethnologue. Dallas Tex.: SIL International.

Locke, T., & May, S. (2004). Dis-lodging literature from English: Challenging linguistic hegemonies. *English Teaching, 3*(1), 17.

Locke, T., Cawkwell, G., & Sila'ila'i, E. (2009). Teaching Literature in the Multicultural Classroom. *Teaching and Learning Research Initiative*.

May, S. (2002). MULTICULTURALISM AND BICULTURALISM IN AOTEAROA NEW ZEALAND: IMPLICATIONS FOR LANGUAGE EDUCATION'.

May, S. (2005). Bilingual/Immersion Education in Aotearoa/New Zealand: Setting the Context. *International Journal of Bilingual Education and Bilingualism, 8*(5), 365-376. doi: 10.1080/13670050508668620

May, S., Hill, R., & Tiakiwai, S. (2004). *Bilingual/immersion education: Indicators of good practice: Final Report to the Ministry of Education*. Wellington, New Zealand.

McCormack, J., Harrison, L. J., McLeod, S., & McAllister, L. (2011). A nationally representative study of the association between communication impairment at 4–5 years and children's life activities at 7–9 years. *Journal of Speech, Language, and Hearing Research, 54*(5), 1328-1348.

McLachlan, C., & Arrow, A. (2011). Literacy in the Early Years in New Zealand: policies, politics and pressing reasons for change. *Literacy, 45*, 126-133.

McLeod, S. (2014a). Resourcing speech-language pathologists to work with multilingual children. *Int J Speech Lang Pathol, 16*(3), 208-218. doi: 10.3109/17549507.2013.876666

McLeod, S., & Verdon, S. (2014b). A review of 30 speech assessments in 19 languages other than English. *American Journal of Speech-Language Pathology,, 23*(4), 708-723.

McLeod, S., Verdon, S., & Bowen, C. (2013). International aspirations for speech-language pathologists' practice with multilingual children with speech sound disorders: development of a position paper. *Journal of communication disorders, 46* (4), 375-387. doi: 10.1016/j.jcomdis.2013.04.003

Ministry of Education (1996). *Te Whāriki. He whāriki mātauranga mo nga mokopuna o Aotearoa. Early childhood curriculum.* . Wellington, New Zealand: Learning Media.

Ministry of Education (2007). *The New Zealand Curriculum. Retrieved from* http://nzcurriculum.tki.org.nz. Wellington, New Zealand.

Ministry of Education. *Special schools.* Retrieved from http://parents.education.govt.nz/special-education-needs/secondary-school/special-schools/

New Zealand Government (1990). *New Zealand Bill of Rights. (Public Act 1990 No 109). Date of Assent 28 August 1990.*

NZSTA (2012). Scope of Practice NZSTA. . *Retrieved from:* http://www.speechtherapy.org.nz/wp-content/uploads/2013/09/NZSTA-Scope-of-Practice-2012.pdf

NZSTA. *Find a therapist near you.* Retrieved from: http://www.speechtherapy.org.nz/page/find-a-therapist/map-and-listings/

Office of Multicultural Affairs (1989). *National Agenda for a Multicultural Australia...Sharing our Future*. Canberra: Australian Government Publishing Service.

Paradis, J. (2001). Do bilingual two-year-olds have separate phonological systems? *International Journal of Bilingualism, 5*(1), 19-38.

Paradis, J., Crago, M., Genesee, F., & Rice, M. (2003). French-English Bilingual Children With SLI How Do They Compare With Their Monolingual Peers? *Journal of Speech, Language, and Hearing Research, 46*(1), 113-127.

Paul, R. (2007). *Language disorders from infancy through adolescence: Assessment & intervention.*: Elsevier Health Sciences.

Peal, E., & Lambert, W. E. (1962). The relation of bilingualism to intelligence. . *Psychological Monographs: general and applied,, 76*(27).

Pearson, B. Z., FERNáNDEZ, S. C., Lewedeg, V., & Oller, D. K. (1997). The relation of input factors to lexical learning by bilingual infants. . *Applied Psycholinguistics, 18*(01), 41-48.

Peña, E. D., Gillam, R. B., Malek, M., Ruiz-Felter, R., Resendiz, M., Fiestas, C., & Sabel, T. (2006). Dynamic assessment of school-age children's narrative ability: An experimental investigation of classification accuracy. *Journal of Speech, Language, and Hearing Research, 49*(5), 1037-1057.

Roseberry-McKibbin, C., Brice, A., & O'Hanlon, L. (2005). Serving English Language Learners in Public School Settings: A National Survey. *Language, Speech, and Hearing Services in Schools, 36*(1), 48-61.

The Royal Society of New Zealand (2013). Languages in Aotearoa New Zealand. Retrieved from: http://www.royalsociety.org.nz/expert-advice/papers/yr2013/languages-in-aotearoa-new-zealand/

Salameh, E. (2002). Language impairment in Swedish bilingual children: a comparison between bilingual and monolingual children in Malmö. *Acta pædiatrica (Oslo), 91*(2), 229-234.

Skahan, S. M., Watson, M., & Lof, G. L. (2007). Speech-language pathologists' assessment practices for children with suspected speech sound disorders: Results of a national survey. *American Journal of Speech-Language Pathology, 16*(3), 246-259.

Smith, J. E. (2010). Biculturalism and multiculturalism: Competing tensions in visual arts education in Aotearoa-New Zealand. *International Journal of Multicultural Education, 12*(2).

Southwood, F., & Van Dulm, O. (2015). The challenge of linguistic and cultural diversity: Does length of experience affect South African speech-language therapists' management of children with language impairment? *S Afr J Commun Disord, 62*(1), E1-14. doi: 10.4102/sajcd.v62i1.71

Spoonley, P., & Bedford, R. (2012). Welcome to our world?: Immigration and the reshaping of New Zealand. *Dunmore Pub.*

Statistics New Zealand (2014). 2013 Census QuickStats about culture and identity.

Stow, C., & Dodd, B. (2005). A survey of bilingual children referred for investigation of communication disorders: a comparison with monolingual children referred in one area in England. *Journal of Multilingual Communication Disorders, 3*(1), 1-23.

Stow, C., & Dodd, B. (2003). Providing an equitable service to bilingual children in the UK: a review. *Int J Lang Commun Disord, 38*(4), 351-377. doi: 10.1080/1368282031000156888

Stow, C., & Dodd, B. (2010). A survey of bilingual children referred for investigation of communication disorders: a comparison with monolingual children referred in one area in England. *Journal of Multilingual Communication Disorders, 3*(1), 1-23. doi: 10.1080/14769670400009959

Thordardottir, E. (2010). Towards evidence-based practice in language intervention for bilingual children. *Journal of Communication Disorders, 43*(6), 523-537.

Thordardottir, E., Rothenberg, A., Rivard, M.-E., & Naves, R. (2009). Bilingual assessment: Can overall proficiency be estimated from separate measurement of two languages? *Journal of Multilingual Communication Disorders, 4*(1), 1-21. doi: 10.1080/14769670500215647

Toohill, B. J., McLeod, S. & McCormack, J. (2012). Effect of dialect on identification and severity of speech impairment in Indigenous Australian children. Clinical linguistics & phonetics *26*(2), 101-119.

The United Nations (1989). Convention on the Rights of the Child. Retrieved from http://www.ohchr.org/en/professionalinterest/pages/crc.aspx. *Treaty Series,, 1577*(3).

Van Dulm, O., & Southwood, F. (2013). Child language assessment and intervention in multilingual and multicultural South Africa: Findings of a national survey. *Stellenbosch papers in linguistics, 42*, 55-76.

Verdon, S., McLeod, S., & Wong, S. (2015). Reconceptualizing practice with multilingual children with speech sound disorders: people, practicalities

and policy. *International Journal of Language & Communication Disorders, 50*(1), 48-62.

Wei, L., Miller, N., Dodd, B., & Hua, Z. (2005). Childhood bilingualism: Distinguishing difference from disorder *Language in society* (pp. 193). Oxford.

Wilkinson, I. A. (1998). Dealing with diversity: Achievement gaps in reading literacy among New Zealand students. . *Reading Research Quarterly, 33*(2), 144-167.

Williams, C. J., & McLeod, S. (2012). Speech-language pathologists' assessment and intervention practices with multilingual children. . *International Journal of Speech-Language Pathology, 14*(3), 292-305.

Winter, K. (2001). Numbers of bilingual children in speech and language therapy Theory and practice of measuring their representation. *International Journal of Bilingualism, 5*(4), 465-495.

Winter, K. (1999). Speech and language therapy provision for bilingual children: Aspects of the current service. *International Journal of Language and Communication Disorders, 34*, 85-98.

Yavas, M., & Goldstein, B. (1998). Phonological assessment and treatment of bilingual speakers. . *American Journal of Speech-Language Pathology., 7*(2), 49-60.

Yelland, J. (2003). Intervention with multilingual language impaired children by South African speech-language therapists. . *Journal of multilingual communication disorders,, 1*(1), 13-33.

Appendix

Appendix A: Invitation email sent out to all participants

Hello,

My name is Angelik Bartoszewicz Poole and I am a Speech-Language Therapist currently completing an MSc at the University of Canterbury, with Dr Jayne Newbury as my main supervisor. In my project I am investigating current practices of SLTs working with multilingual children. As part of my research I'm conducting a nationwide survey, as to date no research exists in this area in New Zealand.

The survey is anonymous and takes about 15 minutes to complete. If you are unable to complete in one sitting, your data is automatically saved and you can resume at any time.

Please click on the following link which will take you to the survey:

Thank you very much for your help. If you have any questions please do not hesitate to contact me.

Kind Regards

Appendix B: Consent and information page of survey

Information & Consent

Your responses on this survey will be used to provide a picture of current practices of speech language therapists, working with multilingual children in New Zealand. The survey should take approximately 15 minutes to complete.

To date no research exists in this area in New Zealand. By comparing current practice in New Zealand with best practice guidelines, recommendations for potential service improvements for these children can be made.

Multilingualism for this project is defined as: "Children who are multilingual are able to comprehend and/or produce two or more languages with at least a functional level of proficiency, regardless of the age at which the languages were learned" (International Expert Panel on Multilingual Children's Speech 2012)

Your completion of this questionnaire is entirely anonymous and voluntary.

The results of the project may be published, but you may be assured of the complete confidentiality of data gathered in this investigation. As the questionnaire is anonymous, no participants will be identified by name in the thesis or any other presentation of the results.

The data will be destroyed after 5 years to meet international standards of data validation.

The thesis is a public document and will be available through the University of Canterbury Library.

You can receive a copy of the project results by contacting the researcher at the conclusion of the project.

Thank you in advance for your participation.

Yes I give consent

No I do not give consent

Appendix C: Survey instrument

Current practices of New Zealand Speech & Language Therapists working with multilingual children

Information

Your responses on this questionnaire will be used to provide a picture of current practices of speech language therapists working with multilingual children in New Zealand.

Multilingualism for this project is defined as: "Children who are multilingual are able to comprehend and/or produce two or more languages with at least a functional level of proficiency, regardless of the age at which the languages were learned" (International Expert Panel on Multilingual Children's Speech 2012)

Your completion of this questionnaire is entirely anonymous and voluntary.

Thank you in advance for your participation.

Questions about you

1. What languages do you speak?

Language(s)	Minimal	Functional	Proficient
	❑	❑	❑
	❑	❑	❑
	❑	❑	❑
	❑	❑	❑

2. How long have you been a speech language therapist?
❑First year practising ❑Between 1 and 3 years ❑Between 4 and 6 years ❑Between 7 and 10 years ❑More than 10 years

3. Which city/country did you train in?_____

4. Which city/town do you work in at the moment?_____

5. Do you feel that your university training adequately prepared you for working with children and families from multilingual backgrounds? ❑Yes ❑Unsure ❑No

Please elaborate

_____

_____

Caseload Questions

6. Which settings do you work in (tick as many as apply)
❑Education ❑Community health ❑Hospital setting ❑Private practice ❑Disability ❑University ❑Other (please state)

7. What percentage of children on your caseload *today* are multilingual? (approximately)
❑0% ❑Less than 10% ❑10 to 25 % ❑25 to 50% ❑50% to 75% ❑75% to 100%

8. In the *past year* how many children on your caseload have been multilingual?
❑1 ❑2-5 ❑5 -10 ❑10-15 ❑15-20 ❑ 20-40

9. What are the language(s) other than English spoken by the children in your clinical practice?

_____

_____

Speech Assessment (articulation/phonology)

10. When assessing the ***speech*** skills of a child who uses English as his/her second or other language, do you typically conduct the entire assessment independently? ❑Yes ❑No

11. If no, who typically assists you? (tick as many as applies)

❑Colleague ❑ESOL teacher ❑Interpreter provided by my workplace ❑Child's family member translates

❑Cultural Advisor ❑N/A (I have not assessed the speech skills of multilingual children)

❑Other_____

12. What types of assistance do you seek when assessing multilingual children's ***speech?***

❑Knowledge of sound structure of other language

❑Cultural knowledge (e.g., attitudes to disability, language socialisation)

❑Other _____

Language assessment

13. When assessing the ***language*** skills of a child who uses English as his/her second or other language, do you typically conduct the entire assessment independently? ❑ Yes ❑No

14. If no, who typically assists you? (tick as many as applies

❑Colleague ❑ESOL teacher ❑Interpreter provided by my workplace ❑Child's family member translates

❑Cultural Advisor ❑N/A (I have not assessed the speech skills of children from multilingual backgrounds)

❑Other_____

15. What types of assistance do you seek when assessing children's ***language***?

❑Knowledge of grammatical and syntactical structure of other language

❑Cultural knowledge (e.g., attitudes to disability, language socialisation)

❑Other _____

Client Details

18. Please complete the details below for the last **<u>three</u>** multilingual children you provided assessment and/or intervention to.

Child 1	
Male	❑
Female	❑
Age	
2 – 4 years	❑
4 – 6 years	❑
6 – 12 years	❑
12 -18 years	❑
Languages used by child	
1…… 2…… 3……....	
Language/s used at home	
Other language only	❑
Other language + English	❑
English language only	❑
Communication disorders	
Delayed language	❑

Child 2	
Male	❑
Female	❑
Age	
2 – 4 years	❑
4 – 6 years	❑
6 – 12 years	❑
12 -18 years	❑
Languages used by child	
1…… 2…… 3……....	
Language/s used at home	
Other language only	❑
Other language + English	❑
English language only	❑
Communication disorders	
Delayed language	❑

Child 3	
Male	❑
Female	❑
Age	
2 – 4 years	❑
4 – 6 years	❑
6 – 12 years	❑
12 -18 years	❑
Languages used by child	
1…… 2…… 3……....	
Language/s used at home	
Other language only	❑
Other language + English	❑
English language only	❑
Communication disorders	
Delayed language	❑

development	
Articulation/ phonological disorder	❑
Intellectual impairment	❑
Autism	❑
Cleft palate	❑
Stuttering	❑
Selective mutism	❑
Global delay	❑
Attention Deficit Disorder	❑
Other ……	❑
SPEECH	
1. Language/s in which *speech* skills were assessed	
Other language	❑
English only	❑
Both languages	❑
N/A (Speech skills not tested) Proceed to question **4.**	❑
2. If *speech* assessments were not conducted in the child's other language, why not?	
No assessments available	❑
No resources available	❑
No access to interpreter	❑
N/A	❑
Other …… …… ……	❑
3. Methods used to assess *speech* skills	
English-only standardized test: ……	❑
Standardized test for child's other language: ……	❑
Informal procedures…….. …… …… ……	❑
Developed local norms…… …… ……	❑

development	
Articulation/ phonological disorder	❑
Intellectual impairment	❑
Autism	❑
Cleft palate	❑
Stuttering	❑
Selective mutism	❑
Global delay	❑
Attention Deficit Disorder	❑
Other ……	❑
SPEECH	
Language/s in which *speech* skills were assessed	
Other language	❑
English only	❑
Both languages	❑
N/A (Speech skills not tested) Proceed to question **4.**	❑
If *speech* assessments were not conducted in the child's other language, why not?	
No assessments available	❑
No resources available	❑
No access to interpreter	❑
N/A	❑
Other …… …… ……	❑
Methods used to assess *speech* skills	
English-only standardized test: ……	❑
Standardized test for child's other language: ……	❑
Informal procedures…….. …… …… ……	❑
Developed local norms…… …… ……	❑

development	
Articulation/ phonological disorder	❑
Intellectual impairment	❑
Autism	❑
Cleft palate	❑
Stuttering	❑
Selective mutism	❑
Global delay	❑
Attention Deficit Disorder	❑
Other ……	❑
SPEECH	
Language/s in which *speech* skills were assessed	
Other language	❑
English only	❑
Both languages	❑
N/A (Speech skills not tested) Proceed to question **4.**	❑
If *speech* assessments were not conducted in the child's other language, why not?	
No assessments available	❑
No resources available	❑
No access to interpreter	❑
N/A	❑
Other …… …… ……	❑
Methods used to assess *speech* skills	
English-only standardized test: ……	❑
Standardized test for child's other language: ……	❑
Informal procedures…….. …… …… ……	❑
Developed local norms…… …… ……	❑

Processing approaches (e.g., non-word repetition	❑
N/A (Speech skills not tested)	❑
LANGUAGE	
4. Language/s in which *language* skills were assessed	
Other language	❑
English only	❑
Both languages	❑
N/A (language skills not tested)	❑
5. If *language* assessments were not conducted in the child's other language, why not?	
No assessments available	❑
No resources available	❑
No access to interpreter	❑
Other…… …….. …….. ……..	❑
6. Methods used to assess *language* skills	
English-only standardized test……...	❑
Standardized test for child's other language ……..	❑
Informal procedures…… …… ……	❑
Developed local norms…… …… ……	❑
Dynamic assessment (e.g., test- teach-test) …… …… ……	❑
Processing approaches (e.g., non-word repetition	❑
N/A (language skills not tested)	❑
7.Language in which *intervention* was carried out	
Other language	❑

Processing approaches (e.g., non-word repetition	❑
N/A (Speech skills not tested)	❑
LANGUAGE	
Language/s in which *language* skills were assessed	
Other language	❑
English only	❑
Both languages	❑
N/A (language skills not tested)	❑
5. If *language* assessments were not conducted in the child's other language, why not?	
No assessments available	❑
No resources available	❑
No access to interpreter	❑
Other…… …….. …….. ……..	❑
Methods used to assess *language* skills	
English-only standardized test……...	❑
Standardized test for child's other language ……..	❑
Informal procedures…… …… ……	❑
Developed local norms…… …… ……	❑
Dynamic assessment (e.g., test- teach-test) …… …… ……	❑
Processing approaches (e.g., non-word repetition	❑
N/A (language skills not tested)	❑
Language in which *intervention* was carried out	
Other language	❑

Processing approaches (e.g., non-word repetition	❑
N/A (Speech skills not tested)	❑
LANGUAGE	
Language/s in which *language* skills were assessed	
Other language	❑
English only	❑
Both languages	❑
N/A (language skills not tested)	❑
5. If *language* assessments were not conducted in the child's other language, why not?	
No assessments available	❑
No resources available	❑
No access to interpreter	❑
Other…… …….. …….. ……..	❑
Methods used to assess *language* skills	
English-only standardized test……...	❑
Standardized test for child's other language ……..	❑
Informal procedures…… …… ……	❑
Developed local norms…… …… ……	❑
Dynamic assessment (e.g., test- teach-test) …… …… ……	❑
Processing approaches (e.g., non-word repetition	❑
N/A (language skills not tested)	❑
Language in which *intervention* was carried out	
Other language	❑

English only	❑
Started in one language and switched to other	❑
Both languages simultaneously	❑
8. Rationale for choice of language for intervention	
Parental insistence	❑
Preshool/ School language	❑
Language of speech therapist	❑
Language of community …… ……...	❑
Language of difficulty for the child	❑
Other …… …… ……	❑
9. If intervention was conducted in English only, please indicate why	
Speech therapist did not speak child's other language	❑
No access to interpreter	❑
No resources available for other language	❑
Other ……..... ……. …….....	❑
N/A	❑
10. Interpreter	
Professional Interpreter	❑Assessment ❑Intervention
Use of parent as interpreter	❑Assessment ❑Intervention
Use of sibling as interpreter	❑Assessment ❑Intervention
Use of child as own interpreter	❑Assessment ❑Intervention
Use of colleague as interpreter	❑Assessment ❑Intervention
N/A (no interpreter used)	❑Assessment ❑Intervention
Other ……	❑

English only	❑
Started in one language and switched to other	❑
Both languages simultaneously	❑
8. Rationale for choice of language for intervention	
Parental insistence	❑
Preschool/ School language	❑
Language of speech therapist	❑
Language of community …… ……	❑
Language of difficulty for the child	❑
Other …… …… ……	❑
9. If intervention was conducted in English only, please indicate why	
Speech therapist did not speak child's other language	❑
No access to interpreter	❑
No resources available for other language	❑
Other ……..... ……. …….	❑
N/A	❑
Interpreter	
Professional Interpreter	❑Assessment ❑Intervention
Use of parent as interpreter	❑Assessment ❑Intervention
Use of sibling as interpreter	❑Assessment ❑Intervention
Use of child as own interpreter	❑Assessment ❑Intervention
Use of colleague as interpreter	❑Assessment ❑Intervention
N/A (no interpreter used)	❑Assessment ❑Intervention
Other ……	❑

English only	❑
Started in one language and switched to other	❑
Both languages simultaneously	❑
8. Rationale for choice of language for intervention	
Parental insistence	❑
Preschool/ School language	❑
Language of speech therapist	❑
Language of community …… ……	❑
Language of difficulty for the child	❑
Other …… …… ……	❑
9. If intervention was conducted in English only, please indicate why	
Speech therapist did not speak child's other language	❑
No access to interpreter	❑
No resources available for other language	❑
Other …….....	❑
N/A	❑
Interpreter	
Professional Interpreter	❑Assessment ❑Intervention
Use of parent as interpreter	❑Assessment ❑Intervention
Use of sibling as interpreter	❑Assessment ❑Intervention
Use of child as own interpreter	❑Assessment ❑Intervention
Use of colleague as interpreter	❑Assessment ❑Intervention
N/A (no interpreter used)	❑Assessment ❑Intervention
Other ……	❑

…… ……..	
11. Advice given to parents about language use at home	
Speak other language only	❑
Speak English only	❑
Speak both	❑
Other …… …… ……	❑

…… ……..	
Advice given to parents about language use at home	
Speak other language only	❑
Speak English only	❑
Speak both	❑
Other …… …… ……	❑

…… ……..	
Advice given to parents about language use at home	
Speak other language only	❑
Speak English only	❑
Speak both	❑
Other …… …… ……	❑

Acknowledgments. This questionnaire was created by using and adapting questions from Jordaan (2008) and Williams & McLeod (2012)

Appendix D: Do you feel that your university training adequately prepared you for working with children and families from multilingual backgrounds?

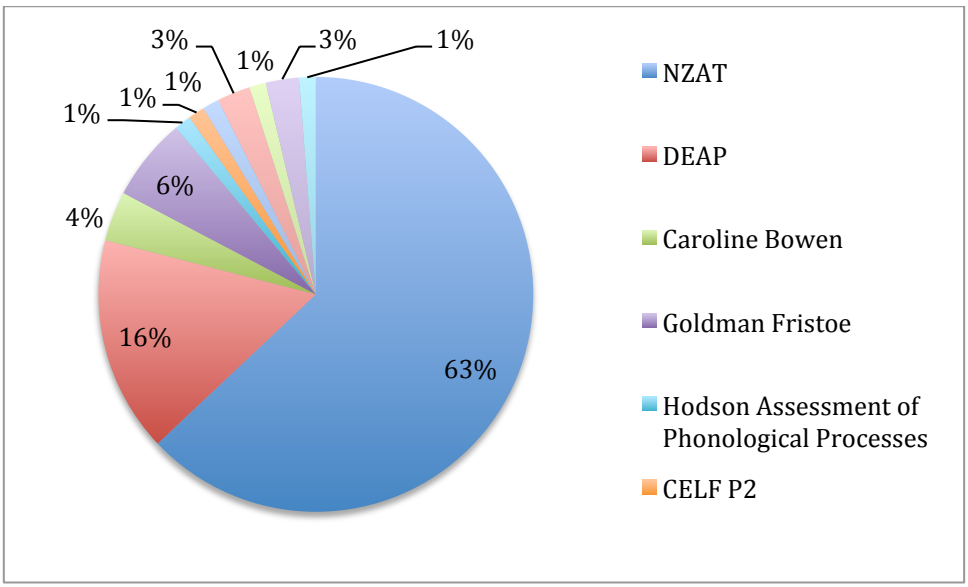
Respondent number	Do you feel that your university training adequately prepared you for working with children and families from multilingual backgrounds?
1	*It's been a while since I studied, so difficult to remember the training we received in this area.*
2	*I had very little experience with this while at university.*
3	*I feel like we had very basic formal instruction on bilingual and multilingualism, this was only theory based and lacked practical application. no practical experience in this area*
4	*Until I worked in the UK and received training here I did not have a lot of exposure to multi lingual backgrounds. I did not have a lot of exposure to multi lingual backgrounds. I was unsure about assessment processes across two languages*
5	*Clinical placements very different ethnic population to those I am working with now. Minimal cultural info given.*
6	*Did not do any training in working with multilingual clients.*
7	*Very general course practically no Maori in the particular course I did*
8	*Not a lot was covered on multilingual language development, assessment and best practice evidence-based support options.*
9	*General tips for different cultures would have been great. Different phonetic symbols. More information on L1 and L2 development would have been helpful*
10	*Ireland is not very multicultural, so I feel there was little emphasis placed in this area.*
11	*We were given theory on language development in multilingual children but no strategies/practical ideas*
12	*Very little learnt at uni*
13	*I can't really remember there being a focus on working with children with multilingual backgrounds in my time at Uni.*
14	*It was a long time ago and I don't remember clearly. I don't remember it being covered as a topic.*
15	*Somewhat - know the theory behind language development but not as prepared around speech sound development. Yes for language, no for speech sounds.*
16	*My lecturers were primarily monolingual and no one spoke Maori - so information was pretty generic.*
17	*I think a lot of what you learn is on the job. We had basic training in working with interpreters and basics around multilingual assessment at uni. It would be hard to do more than this at uni as most learning comes through on the job experience.*
18	*It may be helpful to have more knowledge of what assessments are out there to us.*
19	*We learned the theory of working with bilingual and culturally diverse populations but no hands on experience*
20	*Only briefly covered supporting children and families from*

	multilingual backgrounds
21	*don't recall any teaching around this topic*
22	*We had a paper on cultural competency as part of our BSLT programme, but this focused solely on the Maori Culture in NZ. It was an excellent paper and really raised my awareness about aspects in our society such as 'institutual racism'; but it would have been useful to have a paper looking more generally at children and families from multilingual backgrounds.*
23	*It would have been helpful to have been made more aware of possible multilingual assessments or places where you can go to get support engaging with families of varying languages.*
24	*We were well prepared in London with both theory and practice of working with multilingual and multicultural work placements.*
25	*I learned more about working with multilingual populations from on the job PD and exposure to many multilingual clients*
26	*Cultural considerations were always an "add on". I still feel that our training focused on English only speaking families. I feel extremely undertrained in multilingual speech and language difficulties.*
27	*There was minimal mention of speakers of other languages in our training*
28	*We got minimal education in working with multi lingual children at uni- for me the biggest lack of training was for children from mono lingual backgrounds placed in bilingual or full emmersion kura that have language delay*
29	*can't cover everything in a 3 to 4 year degree. learning on the job is ongoing.*
30	*10 years working in South east Aisia as a teacher of English as a foreign language*
31	*only general info provided more info on specific cultures other than Pasifika and Maori would be helpful and a basic Maori paper so that could have some general knowledge of the Maori language*
32	*teaching in cultural sensitivity was a theme in studies. Placement in culturally diverse areas throughout London was considered for all.*
33	*However there were many things I learnt about this only on the job*
34	*There was a lot of theory covered, and discussion of assessment procedures, but I feel that only experience working with multi-lingual families would adequately prepare someone for working with them clinically.*
35	*factors related to diverse linguistic and cultural backgrounds targeted across papers and topics, relevant practical experience during placements and strong focus on treaty principles*
36	*Taught some theory around Maori and Pasifika, but nothing overly practical about engaging these families*
37	*No information was given around bilingualism and language development, or cultural information of different ethnic groups in NZ*
38	*For Maori clients I feel most prepared however I work with a lot of Asian and Island families*
39	*bilingualism and multilingualism were covered minimally in my training*

40	*Was touched on, but not in depth.*
41	*Completed Maori/ cultural paper as part of degree but very minimal. No training of NZSL.*
42	*I felt that there was lots of information about how to relate to different cultures and be culturally safe but do not feel that I was ready to explain to a parent how multilingual children learn language and how this can be impacted by a language delay*
43	*Had no known lectures spent on this that I can remember*
44	*I trained in the 1970's and there was absolutely no mention of any other language not even maori.*
45	*Cultural elements of disability could have been further explored; engagement of hard to reach families could have been discussed.*
46	*limited training- not very practical*
47	*They taught the theory of assessing in both languages but the reality is - there are no assessments available.*
48	*We completed a paper on working with Pasifika students, and the Treaty of Waitangi and some information about being culturally sensitive when working with Maori families.*
49	*I feel that we had little opportunity to put this into practice.*
50	*I remember the importance of establishing competence in their primary language if the child was ESOL, and the definitions of language difference vs disorder, but nothing around culture*
51	*My training happened a long time ago - it's hard to remember what I learnt from my training and what I have learned while practising. One of the main issues related to children from multilingual backgrounds that I have encountered in my practice is distinguishing a language learning disorder from difficulties related to multilingual language development. I feel that my training provided me with sufficient understanding of the hallmarks of language learning disorders to recognize that some children didn't have this issue and that any difficulties they were experiencing with English were more related to the point they were at with their multilingual development.*
52	*Not fully covered in my training but was touched on*
53	*In a cultural manner, yes. / But nzsl or te reo Maori was not taught at uni.*
54	*Need more hands on experience during training and understanding around assessment tools*
55	*More resources in Maori or Samoan would have helped as a new grad.*
56	*There was a huge emphasis on considering language difference versus disorder, how to work with various populations, and hands on opportunities.*
57	*Work placements have provided far more skill in this area than Uni. Having worked in areas with high immigration levels, I do feel proficient.*
58	*I don't recall it being a part of the curriculum....*
59	*Covered very briefly*
60	*Minimal information on how to assess and determine if language delay, disorder, or difference*

61	*I had minimal training in this area*
62	*We only had 1 or 2 lectures on working with multilingual children/families*
63	*Probably as much as I was prepared for anything! We were set up with the idea that we may need to work with multilingual children and their families, but the struggle I have is whether to provide therapy in first language (home functioning) or the language the child needs to function in the community when they have very severe expressive and receptive language disorders. Especially when I have very limited knowledge of those languages myself. Another area of question for me is specifically around use and therapy in Te Reo Maori for first language Te Reo Maori speakers, and as an official language of NZ.*
64	*We had very little information about working with bilingual/multilingual children; how to assess, what their language development looks like or cultural considerations*
65	*As with all in my training, the ground work was introduced and I built on this in my subsequent practice. I also brought a lot of knowledge based on personal experience.If this were not the case I may have said no.*
66	*Most of the tutors use English only, they are not familiar in depth with other cultures*
67	*Was unsure what advice to give parents regarding if they should be focussing on their first or second language with the child.*
68	*I don't think we ever discussed it.*

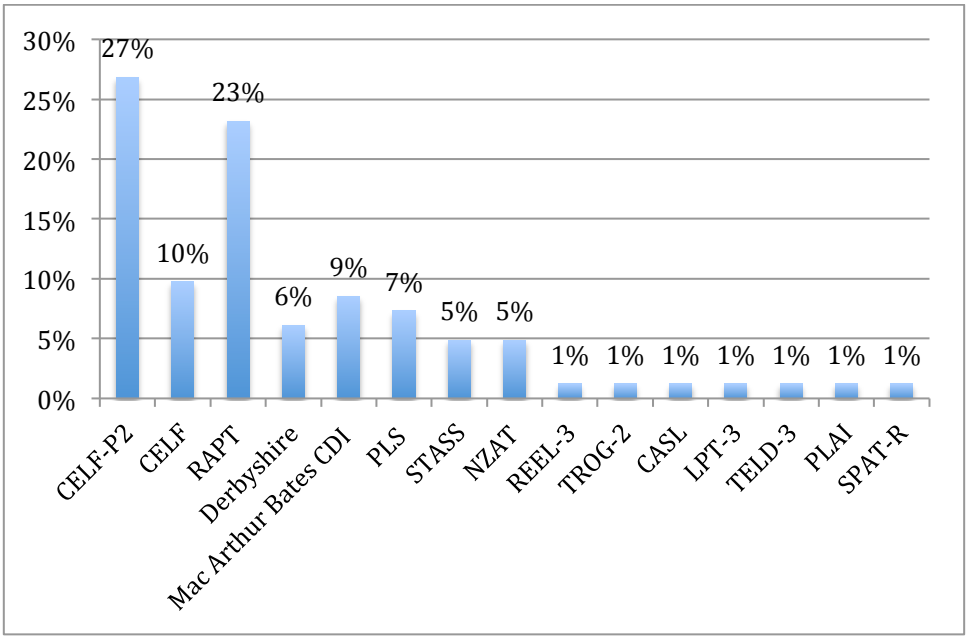
Appendix E: Formal assessments used to assess multilingual children's speech



Note. NZAT= New Zealand Articulation Test, DEAP = Diagnostic Evaluation of Articulation and Phonology, CELF P2 = Clinical Evaluation of Language Fundamentals-Preschool-2, Goldman Fristoe = Goldman Fristoe Test of Articulation, Caroline Bowen = Caroline Bowen Speech Sound Assessment

Figure 6. *Formal assessments used to assess multilingual children's speech*

Appendix F: Formal assessments used to assess multilingual children's language



Note: CELF P2 = Clinical Evaluation of Language Fundamentals-Preschool-2, CELF = Clinical Evaluation of Language Fundamentals, RAPT = Renfrew Action Picture Test, Derbyshire = Derbyshire Language Scheme, MacArthur Bates CDI = The MacArthur-Bates Communicative Development Inventories, PLS = Preschool Language Scale, STASS = South Tyneside Assessment of Syntactic Structures, NZAT = New Zealand Articulation Test, REEL-3 =The Receptive-Expressive Emergent Language Test - Third Edition, TROG-2 = Test for Reception of Grammar, CASL = Comprehensive Assessment of Spoken Language, LPT-3 = Elementary Language Processing Test 3, TELD-3 = Test of Early Language Development, PLAI = Preschool Language Assessment Instrument, SPAT-R = Sutherland test of Phonological awareness.

Figure 7. *Formal assessments used to assess multilingual children's language*